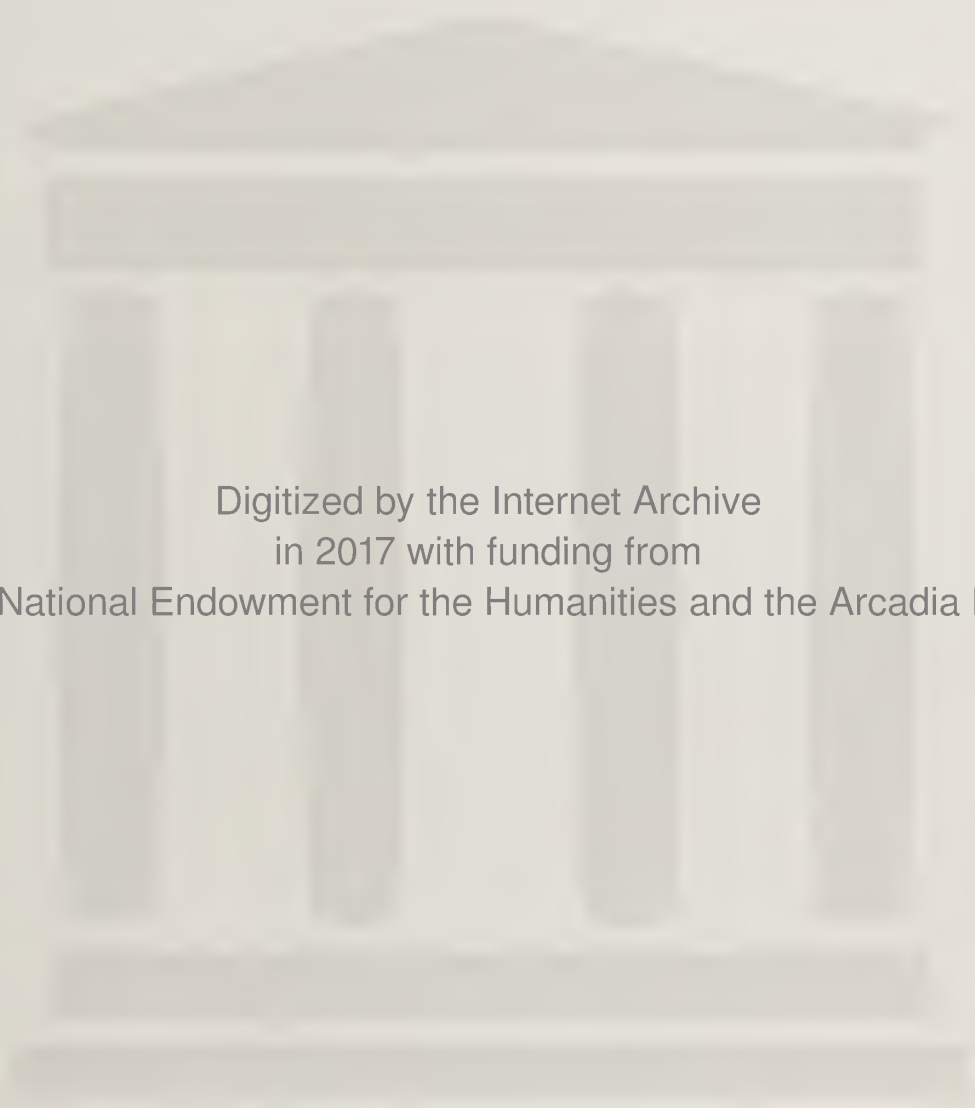


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VOLUME XXXVI

1967

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Vol. XXXVI • No. 1

Symposium on Family Planning and Counseling

Premarital Counseling

JED W. PEARSON, JR., M.D.

Marriage Counseling

LEON YOCHELSON, M.D.

Family Planning

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Valsalva Maneuver in Cardiovascular Diseases

CHARLES B. UPSHAW, JR., M.D.

Jaundice in Rocky Mountain Spotted Fever

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August 1958. (6) Weekes, D. J.: EENT Digest, 25:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., 20:591-593, November 1965.

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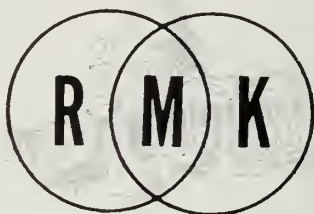
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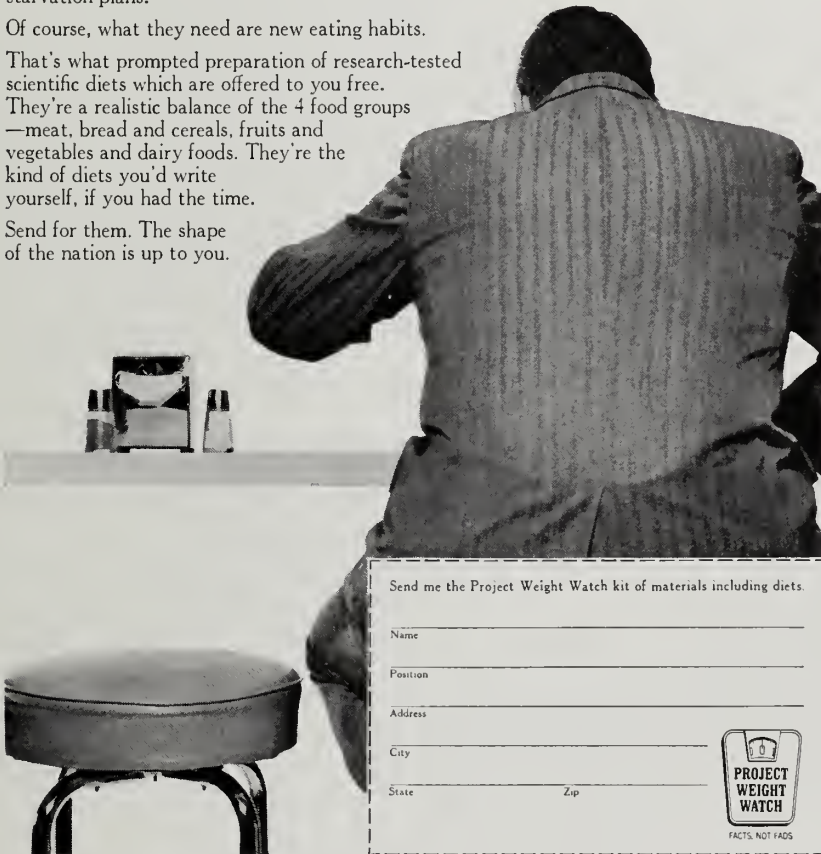
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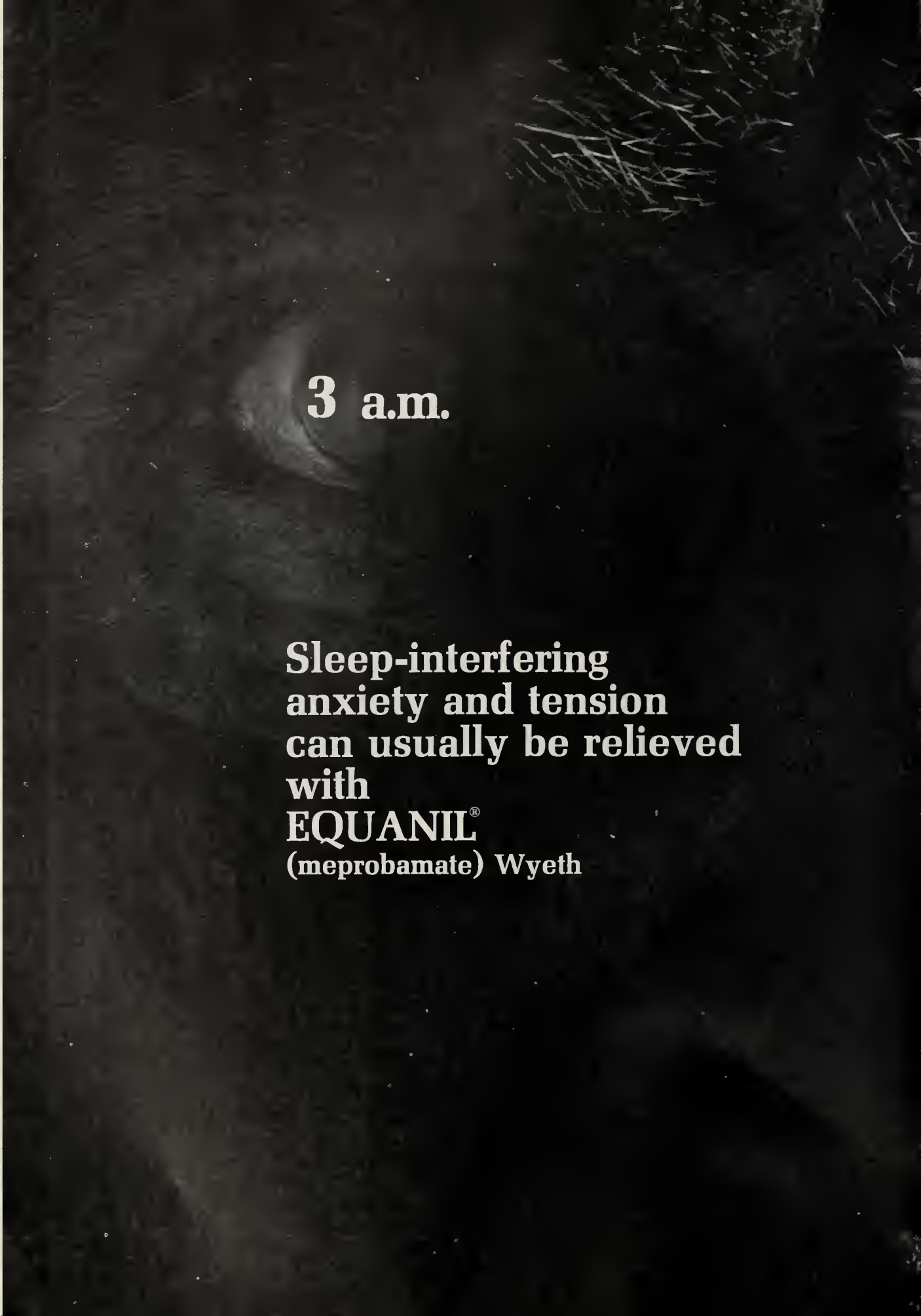
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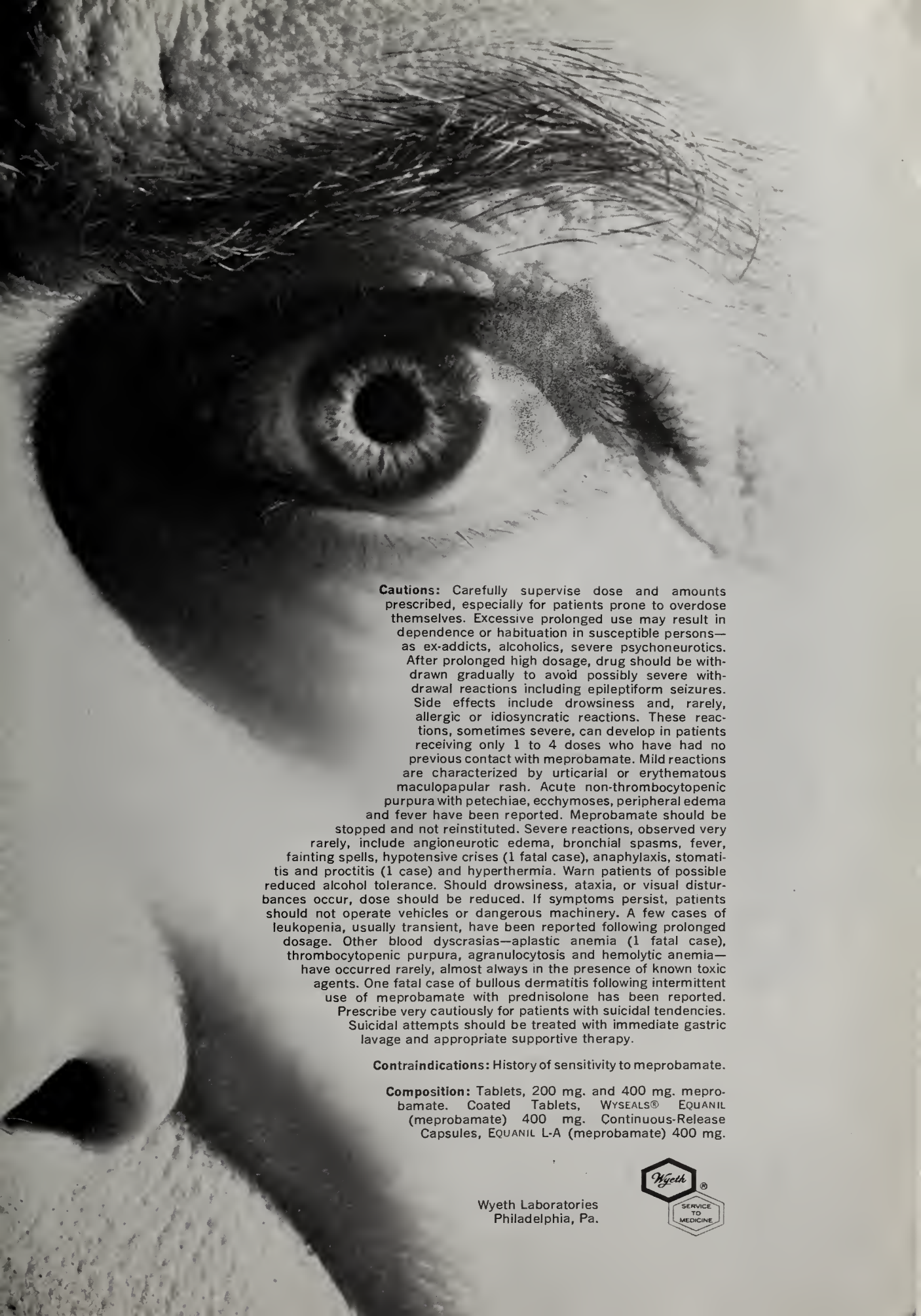
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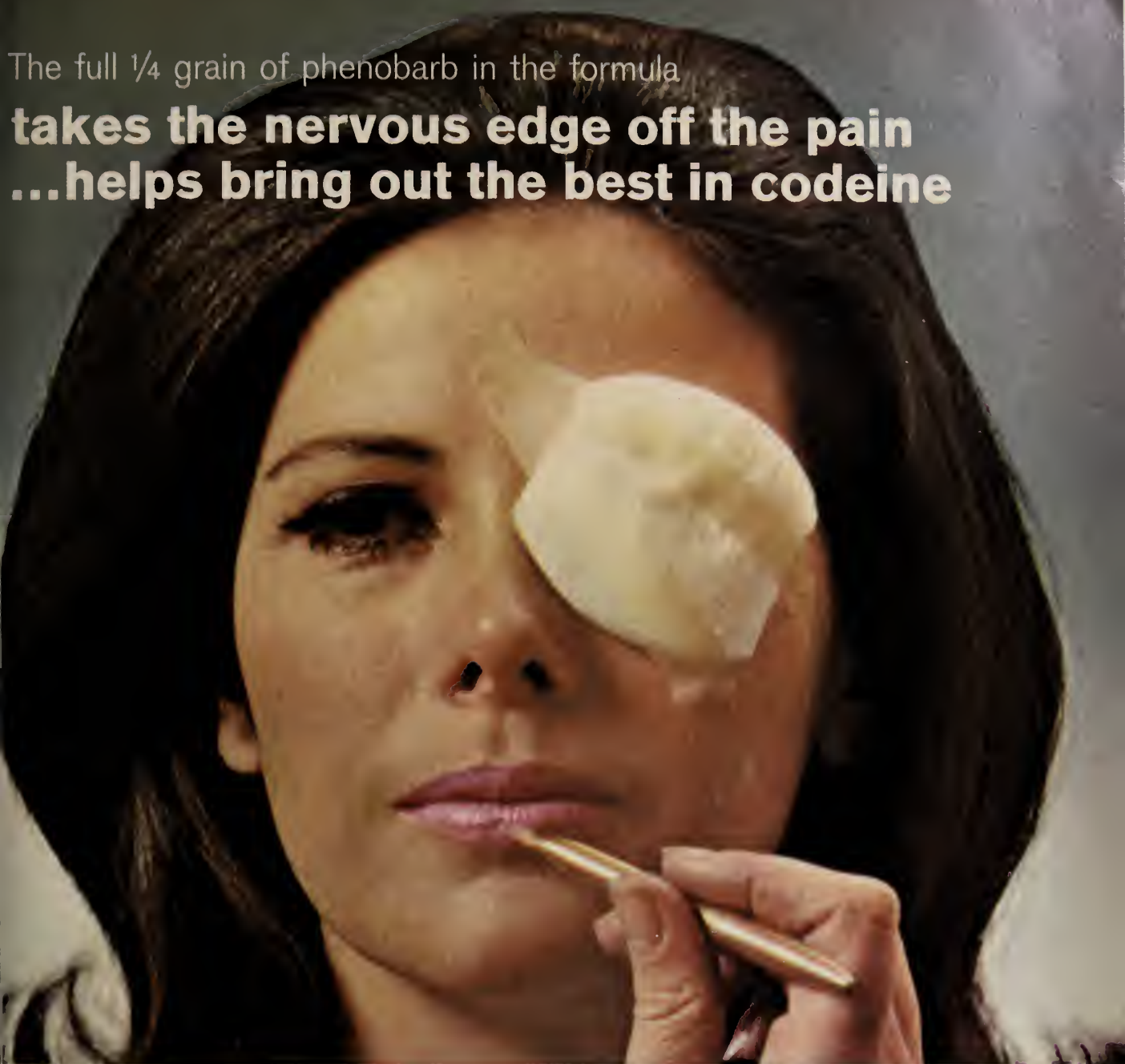
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References: 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuk, E., et al.: Angiology, 12:102, 1961. 3. Rowls, W., et al.: Med. Times, 87:818, 1959.

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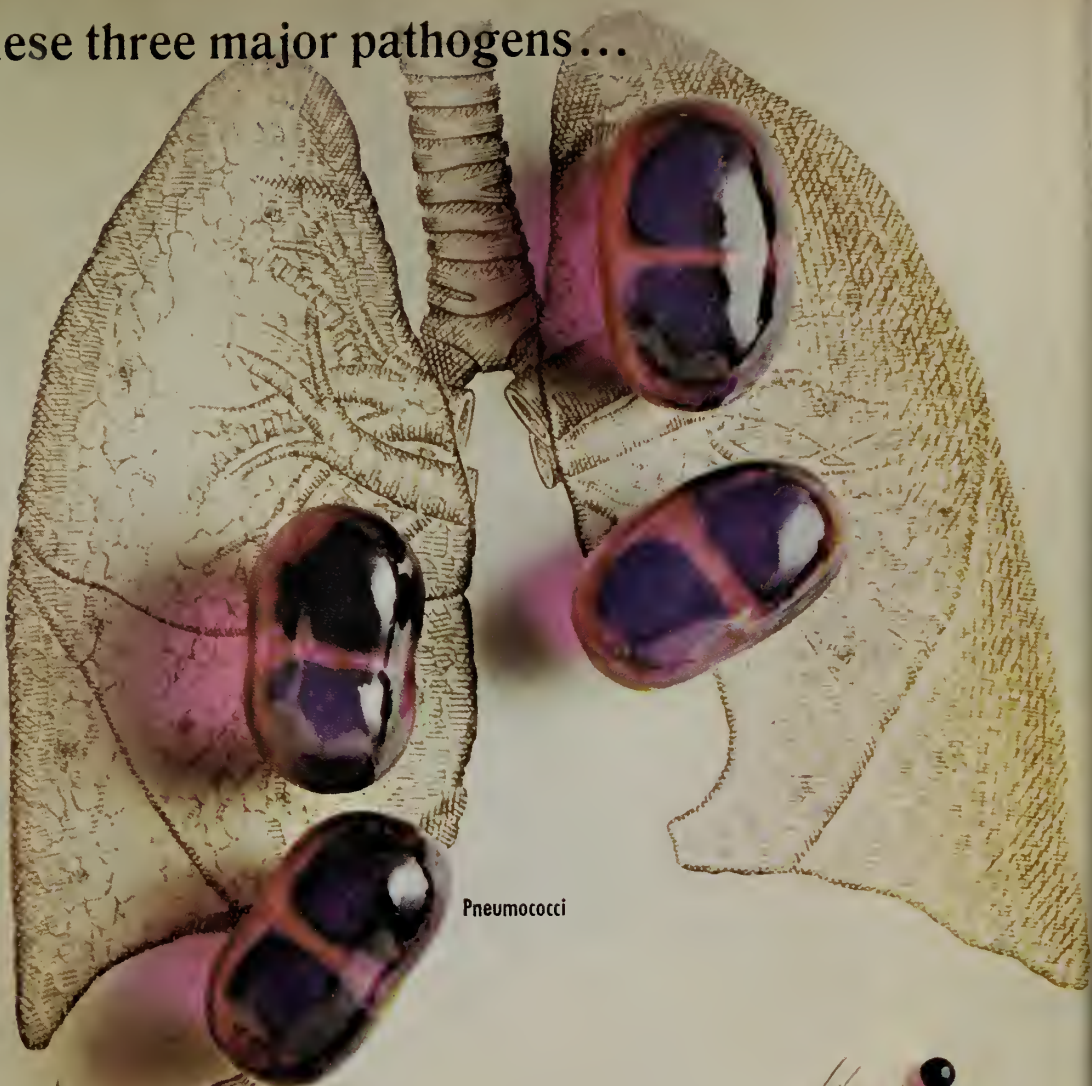
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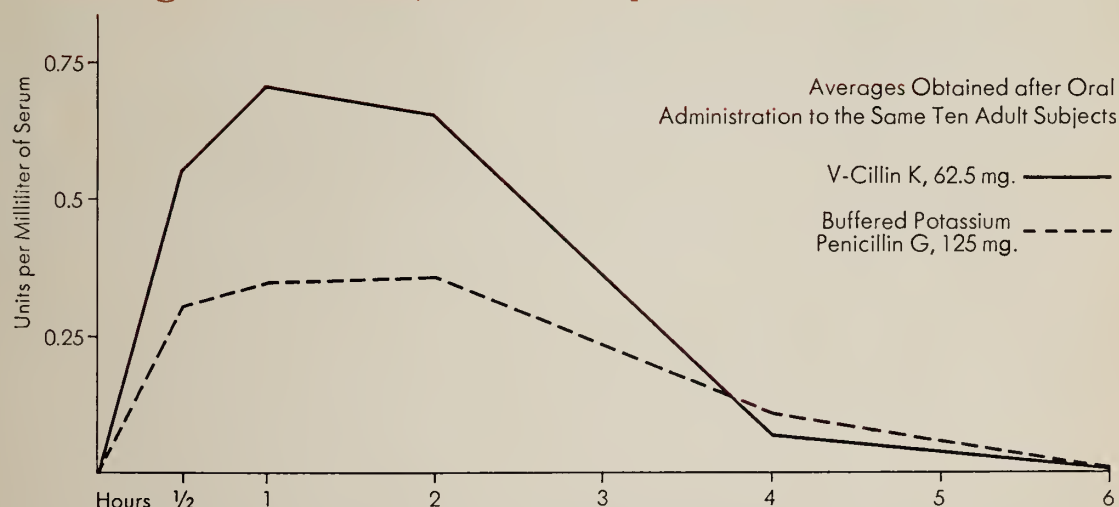
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Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
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Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

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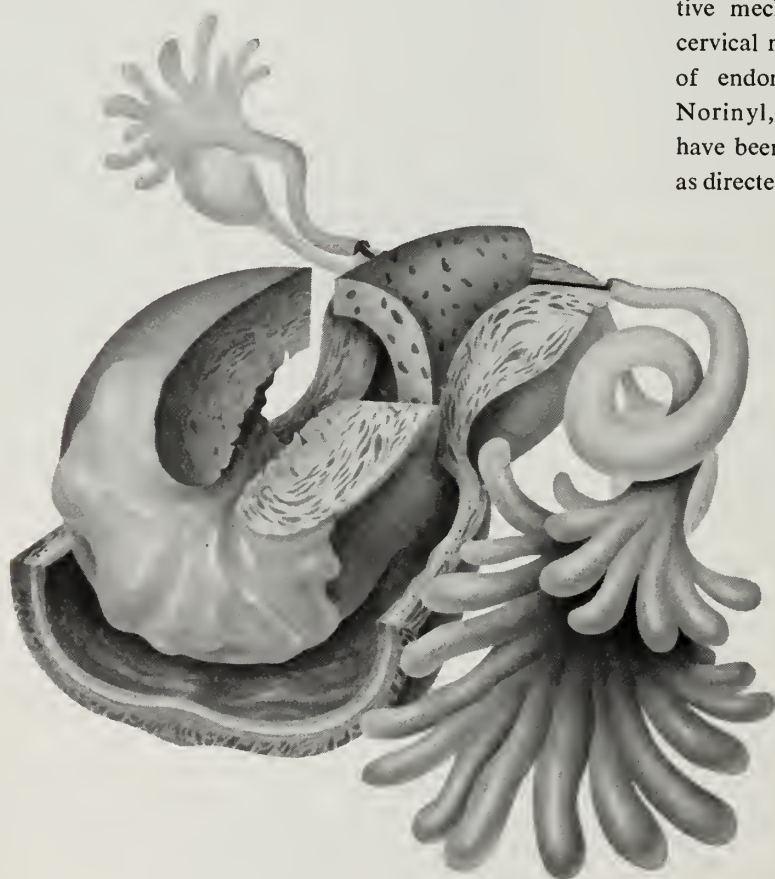
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Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-

ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism. **Side Effects:** Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb 29) 1964. 2. Brvans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kemper, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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Four hundred and fifty patients, most of them classified as functional neurotics, were treated with hydroxyzine for periods of five months to four and one-half years. Sustained good-to-excellent relief from symptoms of anxiety and tension was attained in 401 (89%) of the series.

"Cumulative effects, habituation or addiction to hydroxyzine was not noted during the entire period of this study."

Shalowitz, M.: Int. Rec. Med. 174:357, June, 1961.

Even in the classically dependent alcoholic...

Vistaril (hydroxyzine) was evaluated for relief of postalcoholic syndrome in 52 chronic alcoholic outpatients over a period of two to four weeks. Many patients received partial to complete relief of psychomotor agitation, anxiety, irritability, craving, insomnia, depression, anorexia, nausea and tension. *"No evidence of toxicity or habituation was noted."* *"No difficulty was experienced in discontinuing medication."*

Greenhouse, H. R.: Med. Times 91:1069, November, 1963.

Of 326 alcoholics treated with hydroxyzine for the postalcoholic syndrome, satisfactory control was achieved in 276 (85%). *"As is not the case with other tranquilizers, hydroxyzine has no published record of causing addiction and dependence or withdrawal symptoms."* Goldman, H. I.: Southwest. Med. 42:276, June, 1961.

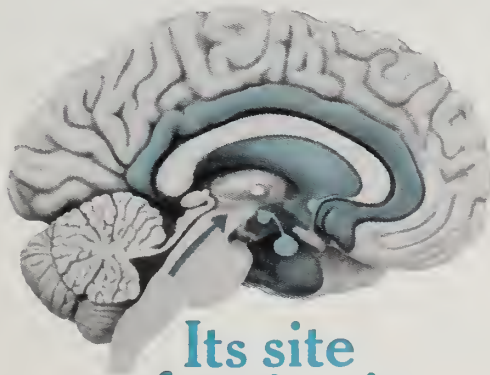
Even in the institutionalized patient needing long-term treatment...

One hundred and fifty-two institutionalized female patients were studied on long-term, high-dose therapy.

Even at high dosages, hydroxyzine *"... did not produce either euphoria or depression."*

Lapolla, A.: Clin. Med. 8:1332, July, 1961.

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turn page for brief summary...

BRIEF SUMMARY

Contraindications: Hypersensitivity to hydroxyzine. The parenteral solution, for intramuscular or intravenous use, *must not* be injected subcutaneously or intra-arterially.

Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate. Until adequate data are available, to establish safety in early pregnancy, hydroxyzine is contraindicated during this period.

Precautions: Hydroxyzine may potentiate the action of central nervous system depressants. In conjunctive use, dosage for these drugs should be decreased, as much as 50%. Because drowsiness may occur, patients should be cautioned against driving a car or operating dangerous machinery. The usual precautions for intramuscular injection should be followed; soft-tissue reactions have rarely been reported when proper technique has been used. On reported intravenous injection a few instances of digital gangrene have occurred distal to the injection site, considered to be due to inadvertent intra-arterial injection or possibly periarterial extravasation. Therefore, particular caution should be observed to insure injection only into intact veins; avoid either intra-arterial injection or extravasation. Intravenous administration should be accomplished slowly, no faster than 25 mg. per minute, and not to exceed 100 mg. in any single dose.

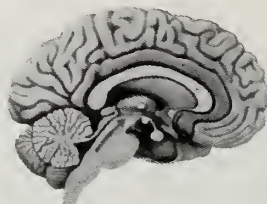
Adverse Reactions: Drowsiness may occur; if so, it is usually transitory and may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may occur with higher doses. Involuntary motor activity has been reported in some hospitalized patients given higher than recommended dosage.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2.3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. This compares with the normal red cell destruction from which approximately 8 Gm. of hemoglobin are liberated every 24 hours. If the hydroxyzine is diluted with 50 cc. of normal saline and given during a period of four minutes or more, this phenomenon does not occur.

Supply: Vistaril (hydroxyzine pamoate) Capsules: Equivalent to 25 mg., 50 mg., 100 mg. hydroxyzine HCl. Vistaril (hydroxyzine pamoate) Oral Suspension: Equivalent to 25 mg. hydroxyzine HCl per 5 cc. teaspoonful. Vistaril (hydroxyzine HCl) Parenteral Solution: 25 mg./cc.—10 cc. vial and 50 mg./cc.—2 cc. and 10 cc. vial; Isoject,® 25 and 50 mg. per cc., 1 cc. per unit.

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NATIONAL AND REGIONAL MEETINGS

January 22-23: National Congress on the Socio-Economics of Health Care. Palmer House, Chicago. Address: Division of Socio-Economic Activities, American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610.

February 9-15: Congress on Medical Education. Palmer House, Chicago. Address: Dr. Walter S. Wiggins, American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610.

February 15-19: American College of Cardiology. Washington Hilton Hotel, Washington. Address: Mr. William D. Nelligan, Executive Director, 9650 Rockville Pike, Washington, D. C. 20014.

March 5-9: International Anesthesia Research Society (41st Congress). Americana Hotel, Bal Harbour, Fla. Address: Dr. B. B. Sankey, Executive Secretary, 3645 Warrensville Center Road, Cleveland, Ohio 44122.

March 10-12: American Association of Pathologists and Bacteriologists. Sheraton-Park Hotel, Washington. Address: Dr. J. Lowell Orbison, University of Rochester School of Medicine and Dentistry, 260 Crittenden Blvd., Rochester, N. Y. 14620.

March 12-15: International Academy of Pathology. Sheraton Park Hotel, Washington. Address: Dr. F. K. Mostofi, Secretary-Treasurer, Armed Forces Institute of Pathology, Washington, D. C. 20305.

March 12-15: 35th Annual Postgraduate Clinic of the District of Columbia Dental Society. Shoreham Hotel, Washington. Address: Ashur G. Chavoor, D.D.S., General Chairman, D. C. Dental Society, 1835 Eye Street, N.W., Washington, D. C. 20006.

March 16-18: Southern Society of Anesthesiologists. Fort Sumter Hotel, Charleston, S. C. Address: Dr. John B. Parmley, Secretary-Treasurer, Hotel Dieu, Sisters Hospital, New Orleans, La. 70160.

March 20-23: Southeastern Surgical Congress. Americana Hotel, Bal Harbour, Fla. Address: Dr. A. H. Letton, Executive Secretary, 340 Boulevard, N.E., Atlanta, Ga. 30312.

March 20-23: American Orthopsychiatric Association (44th Annual Meeting). Washington Hilton Hotel, Washington. Address: Dr. William Stark, Co-chairman of Local Arrangements, 5415 Connecticut Avenue, N.W., Washington, D. C. 20015.

March 28-31: American College Health Association. Mayflower Hotel, Washington. Address: Mr. Lee D. Stauffer, Executive Secretary, P. O. Box 9117, University of Miami Branch, Coral Gables, Fla. 33124.

April 10-13: Aerospace Medical Association. The Washington Hilton Hotel, Washington. Address: Dr. William J. Kennard, Executive Secretary, Washington National Airport, Washington, D. C. 20001.

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- 1/2% nasal spray for adults
- 1/2% jelly for children and adults
- 1% solution for adults (resistant cases)

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ERYTHROCIN-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials^{1,2}, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated^{1,2}—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief
Summary
on next
page

ERYTHROCIN®-SULFAS

Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received.

Appraisal of Current Concepts in Anesthesiology. Volume 3. Edited and assembled by JOHN ADRIANI, M.D. Price, \$10.85. Pp. 522. St. Louis: Mosby, 1966.

100 Years of Dental Progress in the Nation's Capital, as a contribution to the One Hundredth Anniversary of the District of Columbia Dental Society organized November 23, 1866. C. WILLARD CAMALIER, SR., D.D.S. Price, \$6.00. Pp. 274, illustrated. Washington: D. C. Dental Society, 1966.

System of Ophthalmology, edited by SIR STEWART DUKE-ELDER. Volume IX. **Diseases of the Uveal Tract.** SIR STEWART DUKE-ELDER G.C.V.O., F.R.S., AND EDWARD S. PERKINS, PH.D., M.D., F.R.C.S. Price, \$44.50. Pp. 978, with 815 illustrations and 26 coloured plates. St. Louis: Mosby, 1966.

Handbook of Ocular Therapeutics and Pharmacology, 2nd ed. PHILIP P. ELLIS, M.D., AND DONN L. SMITH, PH.D., M.D. Price, \$9.75. Pp. 224. St. Louis: Mosby, 1966.

Human Development, by 29 Authorities. Edited by FRANK FALKNER, M.D., M.R.C.P. Price, \$20.00. Pp. 644, illustrated. Philadelphia: Saunders, 1966.

Condition Critical: Our Hospital Crisis. EDWIN P. HOYT. Price, \$5.95. Pp. 264. New York: Holt, Rinehart and Winston, 1966.

A Manual of Tropical Medicine, 4th ed. GEORGE W. HUNTER III, PH.D., COLONEL, U.S.A. (RET.), WILLIAM W. FRYE, PH.D., M.D., Sc.D. (HON.), AND J. CLYDE SWARTZWELDER, PH.D. Price, \$18.50. Pp. 931, with 323 illustrations, 8 in color. Philadelphia: Saunders, 1966.

Atlas of Cryosurgical Techniques in Ophthalmology. CHARLES D. KELMAN, M.D. Price, \$18.75. Pp. 118, with 140 illustrations by Daisy Stilwell. St. Louis: Mosby, 1966.

Ocular Therapy. Complications and Management. From Symposia on Ocular Drug Complications and Management held under the auspices of the American Academy of Ophthalmology and Otolaryngology. Edited by IRVING H. LEOPOLD, M.D. Price, \$11.00. Pp. 157, illustrated. St. Louis: Mosby, 1966.

Proceedings of the Western Hemisphere Nutrition Congress, November 8-11, 1965, Chicago, Illinois. Organized by the Council on Foods and Nutrition, American Medical Association. Price, \$5.00. Pp. 255, illustrated. Chicago: American Medical Association, 1966.

Yanqui, Come Back! The Story of HOPE in Peru. WILLIAM B. WALSH, M.D. Price, \$4.95. Pp. 192, with 32 pages of photographs. New York: Dutton, 1966.

Dynamics of Development: Euthenic Pediatrics. DOROTHY V. WHIPPLE, M.D. Price, \$15.00. Pp. 648, with illustrations. New York: McGraw-Hill (Blakiston Div.), 1966.

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When she's experiencing acute discomfort from cold symptoms, it's small wonder the patient becomes distressed about her condition.

She will breathe easier when you prescribe Novahistine LP.

Novahistine LP is a long-acting decongestant that helps restore normal mucus secretion and ciliary activity—physiologic mechanisms which prevent infection of the respiratory tract. A dose of two tablets taken in the morning and repeated in the evening will usually keep air passages clear for 24 hours.

Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

 **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

NOVAHISTINE[®] LP

For relief of nasal congestion.

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BOOK REVIEWS

Primer on Prematurity and High-risk Pregnancy. S. GORHAM BABSON, M.D., AND RALPH C. BENSON, M.D. Price, \$10.50. Pp. 194, illustrated. St. Louis: Mosby, 1966.

This concise book, written in outline form, was originally intended for use at the University of Oregon for postgraduate basic instruction for obstetricians, pediatricians, and nursing personnel. The book is divided into 2 sections. The first part, written by Dr. Benson, Chairman of the Obstetrics and Gynecology Department at the University of Oregon, deals with the problems of the mother and the fetus-in-utero which may result in increased perinatal mortality. It includes discussion of the definitions of prematurity, specific disease and drug hazards affecting the fetus, complications of pregnancy resulting in prematurity, complications of pregnancy requiring early delivery, and the risk of prematurity in elective delivery.

The second portion of the book is written by Dr. Babson, Director of the Premature Nursery, Doernbecker Memorial Hospital for Children, University of Oregon Medical School. This part of the book includes chapters on care of the high-risk infant at birth, care of the infant in the nursery, physiologic handicaps in the premature infant, and sequelae to prematurity.

By the very nature of the contents, this book emphasizes a coöperative effort of both the obstetrician and pediatrician as necessary in the improvement of fetal salvage. It outlines in detail clinical management both prenatally and after birth as practiced at the University of Oregon. There is something of value for all obstetricians and pediatricians, but its chief value is for the senior medical student, intern, and beginning resident who feels the need of a didactic guide to clinical problems which arise.

For the seasoned obstetrician there may be less necessity for this book. However, a solid modern philosophy of approach to obstetrics is presented in these pages. Emphasis is placed on an active role by the obstetrician in the prevention and alleviation of situations inimicable to the fetus. Placental insufficiency, "the greatest challenge in modern obstetrics," occurs when the placenta is incapable of supplying proper nutrition to the fetus. The use of maternal colpocytology and estriol excretion levels are mentioned as aids in this syndrome in determining the optimal time for delivery.

Amnionitis as a fetal hazard is discussed and the use of prompt induction of labor or cesarean section (if induction fails) following spontaneous rupture of the membranes is advocated. The use of "sterile neglect" of ruptured membranes should be avoided.

The importance of obtaining an antibody screen against all known antigens in every patient is stressed. This should be done in early pregnancy and again at 32 weeks. Rh positive patients are not immune to erythroblastosis because of the occurrence of iso-immunization to C, E, K (Kell), and Duffy.

In summary, this book presents a detailed outline of clinical procedures aimed at increasing the fetal salvage. It is not meant to be a volume which covers all of the basic scientific data and clinical background leading up to the therapeutic decisions. It can be especially valuable to the young clinician as a guide to proper management of the patient.

OSCAR I. DODEK, JR., M.D.

Surgical Diseases of the Chest, 2nd ed. Edited by BRIAN BLADES, M.D. Twenty contributors. Price, \$25.00. Pp. 687, with 295 illustrations. St. Louis: Mosby, 1966.

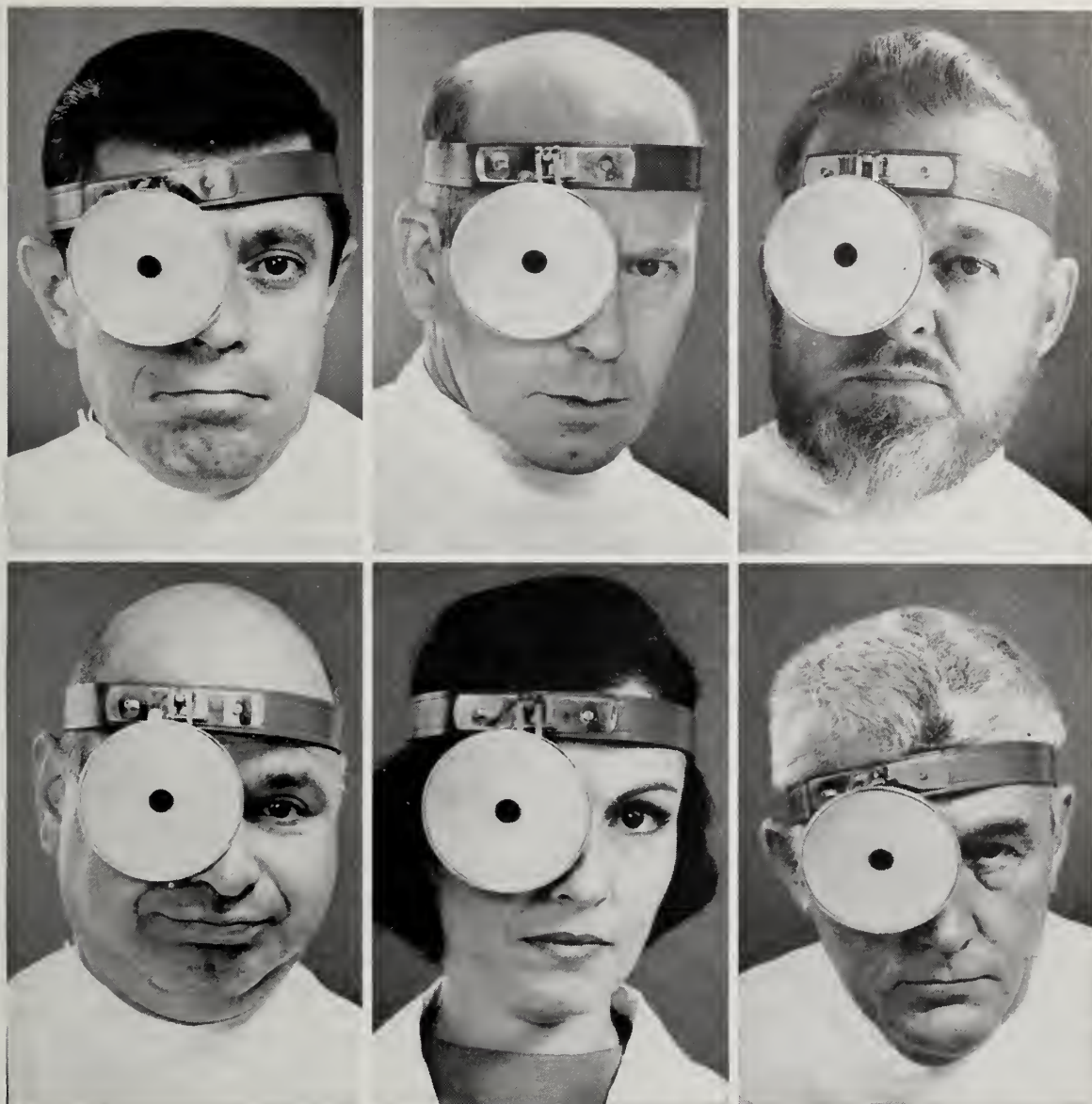
The broad and ever-expanding field of surgical diseases of the chest is quite adequately reviewed in this second edition, which incorporates the experiences of many of the recognized leaders in thoracic and cardiovascular surgery. Throughout the entire book, from the initial chapter on basic physiology to the concluding chapter on anesthesia, Dr. Blades and his co-authors have compiled an impressive amount of pertinent and timely material. The initial one third of this edition is devoted to Thoracic Surgery, and the subjects covered vary from trauma to esophageal lesions. This portion differs very little from the original edition with the exception that the authors have up-dated advances in diagnosis, surgical techniques, and operative results.

The remainder of the book deals exhaustively with the dramatic advances that have been made in Cardiovascular Surgery. The chapters on Congenital and Acquired Heart Diseases contain clear X-ray reproductions, sketches, diagrams, and photographs which enable the reader to visualize clearly and compositely the pathology involved and to understand the surgical maneuvers that are now available to correct these defects. The chapters that deal with the surgical attack on diseases of the coronary arteries and the great vessels are particularly timely, very readable, and beautifully illustrated. Each chapter, including those dealing with Thoracic Surgery, is concluded with an extensive, categorized bibliography.

Undoubtedly, an undertaking of this magnitude cannot possibly please or satisfy all of its readers. Some will feel that it is far too detailed and technical, e.g., the chapters on Congenital and Acquired Heart Diseases. Many will feel that this edition could have been enhanced had the chapters on Thoracic Surgery been more detailed. Others may feel that various sections are repetitious or unclear. However, when viewed as a whole, these minor criticisms will be far outweighed by the many positive features of this very comprehensive review, which should serve not only as an excellent textbook for students, interns, and residents, but also as a valuable reference for practicing physicians and surgeons.

OSCAR S. DEPRIEST III, M.D.

(Continued on page 30)



"All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

Wrong! But that's no more preposterous than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more exacting. In fact, there are at least nine *specific differences* involving moisture content, purity, potency and speed of tablet disintegra-

tion, which make the manufacture of Bayer® Aspirin so different.

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So next time you hear someone say that *all* aspirin tablets are alike, you can say, with confidence, that "it just isn't so."

You might also say that all otolaryngologists aren't alike, either.



Book Reviews

(Continued from page 28)

Hematologic Problems in the Newborn. Volume IV in the Series, Major Problems in Clinical Pediatrics. FRANK A. OSKI, M.D., AND J. LAWRENCE NAIMAN, M.D.; ALEXANDER J. SCHAFER, Consulting Editor. Price, \$11.00. Pp. 294, with 47 illustrations. Philadelphia: Saunders, 1966.

This excellent monograph collects much of the currently available information on the hematologic problems of newborns into a compact and readable volume with a modest price tag. Reading it, one is impressed at the extent to which basic science findings have contributed to the understanding of blood diseases. Many details of erythrocyte metabolism have been worked out and help to explain hemolysis, methemoglobinemia, and the effect of certain drugs on the erythrocyte. Similarly, genetics is never seen to be closer to clinical medicine than in the presentation on hemoglobin synthesis, where the genes controlling each peptide chain of the various hemoglobins are separately analyzed and the effects of their activation are presented.

One of the real strengths of this monograph is that each statement of fact is abundantly documented and referenced. Respect for the rules of evidence is obvious, and on controversial matters the conflicting positions are included. The book is made easier to read by tables summarizing pertinent data and by bold-faced subheadings indicating subdivisions in the text. In addition to discussion of the well-known hematologic diseases of the small infant, chapters deal with the relationships during pregnancy between fetus and mother and the normal values of all hematologic variables during the first few weeks of life. This latter aspect is especially important, as these variables change radically and can only be properly evaluated in terms of a baby's age. For example, 3 to 7 per cent reticulocytes are normal at birth, but by 7 days of age 0 to 1 per cent is normal. Transient leukocytosis, thrombocytopenia, and prolonged prothrombin times may all be normal findings in newly born prematures.

This book is recommended to all those with responsibility for the care of newborns; the neonatologist, the hematologist, and the pediatrician alike will find much to interest him. Despite the scholarly flavor of the work it is easily read and makes many practical suggestions regarding therapy.

GORDON B. AVERY, M.D.

Biological Treatment of Mental Illness. Proceedings of the II International Conference of the Manfred Sakel Foundation, held October 31 to November 3, 1962, at the New York Academy of Medicine, New York. Edited by MAX RINKEL, M.D. Price, \$25.00. Pp. 1025, illustrated. New York: Page (Farrar, Straus and Giroux), 1966.

The Second International Conference of the Manfred

Sakel Foundation sponsored a scientific meeting to explore the biological treatment of mental illness. Outstanding scientists from 22 nations contributed articles, expressing a global perspective on biological psychiatry. The Conference Proceedings emphasized the historical contributions of the biological treatments to psychiatry, studies in physiology and biochemistry, developments in plasma protein factors and serum fractions, psychopharmacology, endocrine convulsive treatment, and insulin coma therapy. A special section is devoted to the legal aspects of biogenetic crime. Discussions were presented to explain and clarify the research presentations. Biological models dealing with the underlying cause(s) of mental illness were explored in neural plasticity and the memory process, theoretical or etiological basis of biological treatment of mental illness, the effect of some psychotomimetic drugs upon single nerve cells, the nature of sympathetic nerve endings, and serotonin antagonists and their effects upon behavioral responses to 5-hydroxytryptophan. Psychopharmacological aspects of the catecholamines, LSD and UML, phenothiazine derivatives and anti-depressant agents, and their treatment implications were also reviewed.

This book is a collection of fine theoretical and applied research that will afford the reader a relatively broad overview of the newer biological approaches to treatment of mental illness.

RICHARD H. KASTNER, M.D.

United States Army in World War II: The Technical Services. The Medical Department: Medical Service in the Mediterranean and Minor Theaters. CHARLES M. WILTSE, PH.D., LITT.D. Price, \$5.00. Pp. 664, with 39 tables, 43 maps, and 128 illustrations. Washington, D. C.: Superintendent of Documents, U. S. Government Printing Office, 1965.

This volume is a continuation of the series, "The United States Army In World War II." It is the second to be published in the group of Medical Department Volumes in the subseries, "The Technical Services." The book traces the support provided the U.S. troops by the medical services from the invasion of North Africa through the campaigns in Italy.

The material presented is more likely to be of interest to the military historian than the practicing physician. Nevertheless, the portions of this volume dealing with public health activities is of considerable interest. For example, attempts to reduce the venereal disease rates in Egypt and Libya provide glimpses of preventive medicine in action in wartime with methods which might not be utilized under more conventional peacetime mores. Similarly, typhus control in Naples is another example of the type of public health problem interestingly presented and discussed.

The book has numerous illustrations and maps. The type is large and easy to read.

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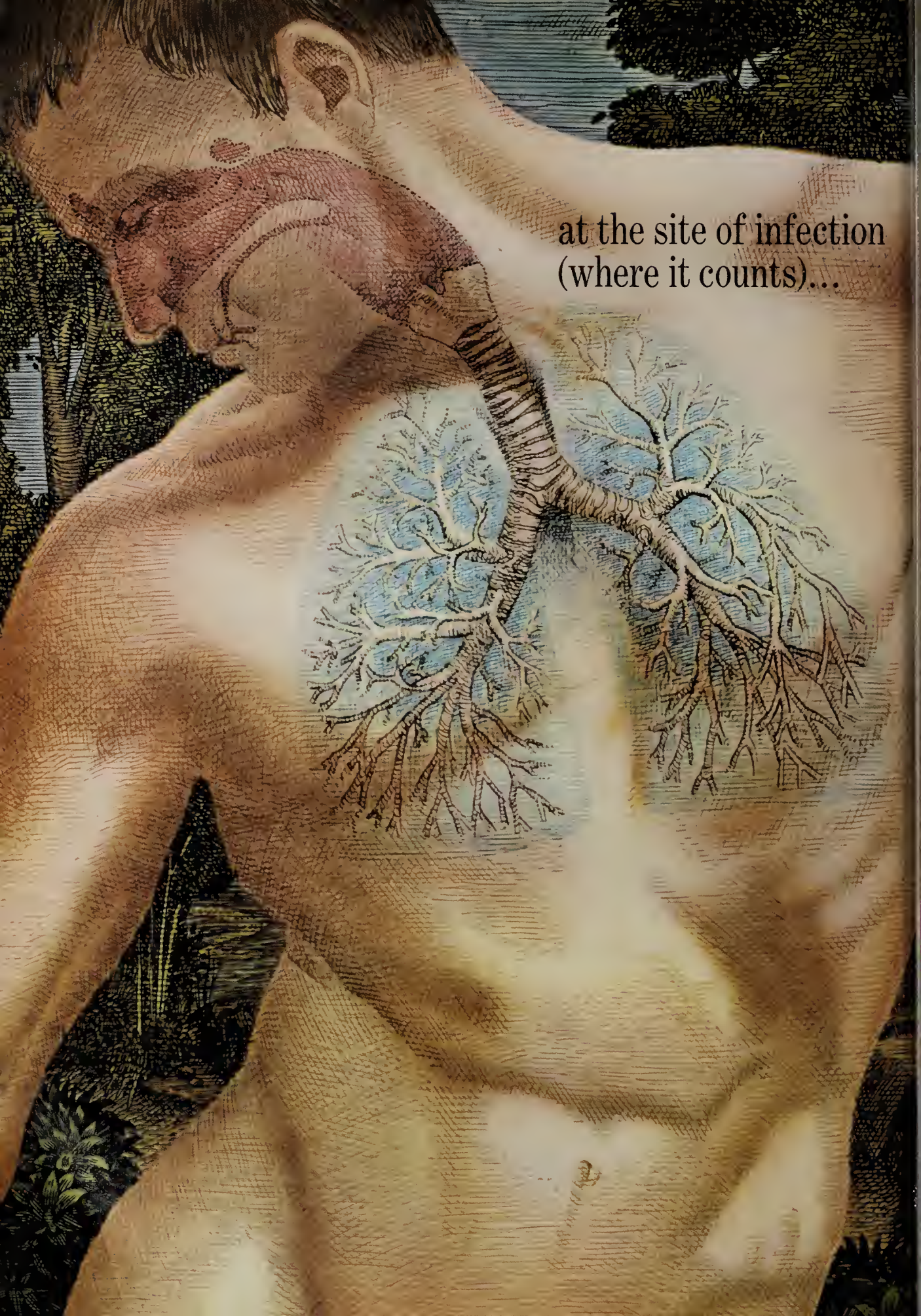
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In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescence and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and abnormal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has been reported in other patients taking prolonged courses of medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months for rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticarial skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

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For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

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Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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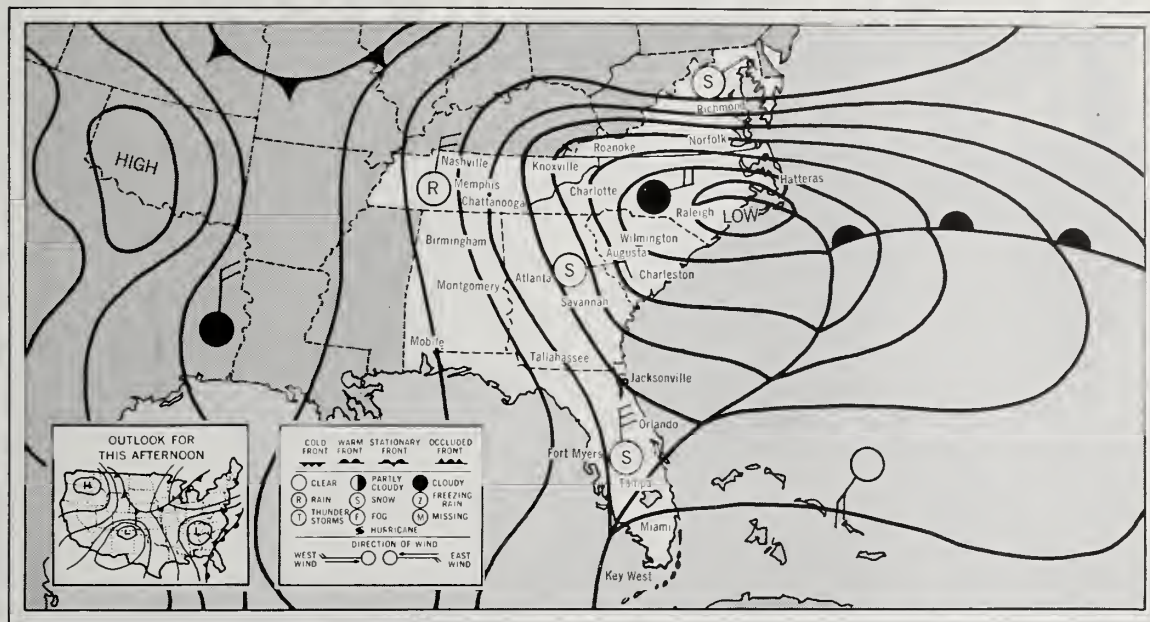
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histamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat β -hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

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MEDICAL ANNALS

of the District of Columbia

January 1967

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Symposium on Family Planning and Counseling

THE FIRST FIVE PAPERS in this issue of the MEDICAL ANNALS were presented in a Symposium on Family Planning and Counseling before the Thirty-third Annual Scientific Assembly of the Medical Society of the District of Columbia, November 24, 1965, at the Washington Hilton Hotel.

Premarital Counseling*

JED W. PEARSON, JR., M.D.†

RAPIDLY CHANGING social, economic, moral and cultural values have increased the stresses on marriage and family living. The plethora of articles in professional and lay journals written by physicians, sociologists, psychologists, ministers and lawyers attest to the concern of our society.

Many problems associated with marriage and family life are so fraught with emotion, frustration and conflict that the only hope of solution lies in obtaining professional advice. Because of the demand for such services a new profession, that of marriage and family counseling, is developing.

The field of marriage counseling may be divided for consideration into premarital and postmarital counseling. Premarital counseling is preventative or prophylactic. Postmarital counseling is diagnostic and/or therapeutic. One who desires to practice postmarital counseling, regardless of professional background, must acquire specialized knowledge in psychiatry, psychology, sociology, family law, and counseling techniques. However, a physician who wishes to include premarital counseling in his practice needs little additional training because of his medical background.

Many young couples, either on their own initiative or by referral from family, friends or clergy,

will consult the physician for family planning advice. This offers an unusual opportunity to concerned physicians to practice prophylactic or premarital counseling.

The Premarital Consultation

Ideally, premarital medical consultation should begin 6 weeks before the wedding¹ and should consist of the following:

A careful medical history including the previous sex history of the man and woman. Inquiry should be made into possible hereditary problems in either family.

A complete physical examination should be done. Laboratory work should include a hemogram, urinalysis, Wassermann or other test for syphilis, blood typing and Rh factor determination, chest X-ray film, Papanicolaou smear, and urethral smears and cultures as indicated. If the consulting physician does not treat males, they may be referred for a general history and physical examination as well as the indicated laboratory procedures.

If the physician feels that the engaged couple need to understand themselves and each other better regarding the uses of sex in the adult life, he may wish to utilize certain counseling tests such as the Sex Knowledge Inventory by McHugh.² Such tests are effective tools to give the doctor a comprehensive picture of the couple's sex knowledge and attitudes. Discussion of such tests with the individual serves to establish rapport as well as possibly to uncover deeper psycho-

* Presented as part of a Symposium on Family Planning and Counseling before the Thirty-third Annual Scientific Assembly of the Medical Society of the District of Columbia in Washington, D.C., November 24, 1965.

† Associate Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine; office: 1834 K Street, N.W., Washington, D.C. 20006.

logic and emotional problems which were unsuspected. In the latter event, referral to a properly trained psychiatrist should be made.

At the time of the premarital physical examination a very careful pelvic examination should be done. The presence of vaginal discharge, cervicitis, cervical polyps, condylomas and other minor conditions should be noted and treatment instituted. Flowers³ has stressed the importance of including the Papanicolaou smear as a routine, even in the young age-groups. Developmental defects which would interfere with normal sexual intercourse and sexual life would be discovered and corrected. A thick rigid hymen may be treated in several ways. With some patients it might be more desirable to give instructions for digital dilation of the hymen during the few weeks preceding marriage. In many instances, however, it is preferable for the physician during several weekly visits to dilate the hymen by the use of graduated dilators. This method, if gentleness is used, is nontraumatic and affords an excellent opportunity to teach the patient about her own genital anatomy. Hymenotomy is used by some practitioners but is less desirable than dilation, since the incision requires approximately 3 weeks to heal and frequently results in tender scar tissue which may contract enough that dilation may eventually be required. Hymeneal dilation or hymenotomy should never be performed without the knowledge and consent of both parties.⁴

During the premarital pelvic examination existing uterine and ovarian tumors should be noted and their proper disposition made before marriage.

An estimate of the capacity of the bony pelvis can be made with the patient's future child-bearing capabilities in mind. The knowledge that she possesses normal genital organs and an adequate pelvic capacity is most reassuring to the young bride-to-be. In discussing his findings, however, the physician should carefully avoid the use of such terms as "small pelvis," "infantile uterus," or "tipped womb."

Specific instructions in contraception should be given to the couple if requested. The physician should be familiar with all methods of birth control in order to prescribe the type indicated by the patient's needs and desires. Diaphragms, foams, jellies, plastic intrauterine devices, oral contraceptives, as well as periodic continence or rhythm, all have their particular place in the family-planning armamentarium.

The physician should offer such specific advice on lubricants, physical aspects of sex, coital

procedure, and feminine hygiene as is indicated by the patient's needs and questions. The physician should be familiar with a selected bibliography which could be recommended for supplemental reading.

It is often advisable to request that the bride return after the honeymoon for an additional interview and examination. At that time any problems which may have arisen can be considered.

Discussion

Many of the patients seen are healthy, mature young adults who need only to be examined and furnished with a few explanations and clarifications. Others have additional physical problems which must be corrected. Some are emotionally immature and ill prepared for marriage. These couples need more time and attention and should possibly be referred to a certified marriage counselor. Any obviously psychopathic persons such as drug addicts, homosexuals, and alcoholics should be strongly encouraged to seek psychiatric help before marriage.

Another perplexing category is the young person who is premaritally pregnant. Burchinal⁵ states that estimates of premarital pregnancy rates among newly married couples range from over 30 per cent to nearly 90 per cent when both spouses are of high school age in comparison with pregnancy rates of approximately 20 per cent for all brides. Marriage is not always a proper solution for this serious problem. If the 2 people involved are teen-agers, have not finished high school, are partially or completely financially dependent on their parents, and whose prospective in-laws are unsympathetic and opposed to the marriage, the chance of success in their marriage is less than 50 per cent.⁵ Under these circumstances a forced marriage will only substitute one set of troubles for another. Therefore, it is the duty of the doctor, as family and premarriage counselor, to explore all alternatives to this undesirable family situation. Marriage, as a solution, is desirable only if both parties and their families desire it.

The alternative of having the baby out of wedlock is often acceptable, especially when the family learns that good medical care is available in maternity homes for unwed mothers and that anonymity can be preserved. Completion of the reproductive cycle may be in itself a rewarding and maturing emotional experience. Rarely it may be just the opposite.

(Continued on page 76)

Marriage Counseling*

LEON YOCHELSON, M.D.†

THOUGH SAID to be the function of a separate profession, marriage counseling is characterized neither by practitioners belonging to a single group nor by the use of any unique technical developments of its own. Rather, marriage counselors have diverse backgrounds ranging from good intention and no training to attendance at extensive specialized postgraduate programs in medicine and the various psychotherapies. Thus, an inventory of marriage counseling techniques would be quite lengthy, including non-directive interviewing, interpretations of feelings and behavior, religious teachings, instructions in sexual conduct, reading assignments, and the like. Throughout this extensive list may be the contaminant of "common sense," a quality which is not an adequate substitute for specialized knowledge.

Some have the notion that a few homey quotations suffice to "set a person straight." Others go to the opposite extreme and insist upon the client's discovering his own solution. These 2 "methods" represent the extremes of directiveness, verging on the authoritarian, on the one hand, and on the other hand a demand for change by one's own will and insight. Such approaches have in common first, a great degree of rigidity, and second, a small degree of success. Fortunately, increasing understanding of the roles and expectations of the counselor and the counselee has permitted development of more rational and flexible approaches.

"Marriage counseling"—these 2 words are poorly understood, difficult to define, and even tricky to spell. Marriage counseling should be viewed as a treatment effort designed to lend clarification to those factors which deter people from dealing adequately with the pains of wedded life. Careful diagnostic appraisal is necessary to separate the superficial bruise from the deeper

wound and from the still early and mildly symptomatic stages of what is likely to progress onto a marital fatality.

Marriage counseling is considered to be part of medical patient-care but a function not restricted to physicians. It is stressed, however, that close collaboration must exist between physician and counselor when these 2 roles are not combined. Clearly, sexual dysfunction cannot be casually assumed to be solely a consequence of psychic conflict. Perhaps, for example, a neurologic condition may help explain why 2 people who have disliked each other for years only now present a problem of sexual difficulty.

Blindness in the courtroom is said to lend objectivity in the search for justice. Blindness in romantic idealization usually is only temporary and therefore may lead to feelings of disappointment and even antagonism. When the blindfold of romance drops away, each party to the marriage can accept at least some of the frailties of the other provided a mixture of good fortune and maturity is present. If one or both cannot deal with the advent of disenchantment, varying consequences may ensue, such as outright marital discord, extramarital ventures, depression, and somatic disturbances.

Romantic idealization is a mixed blessing. The cynic believes that without a "love is blind" basis for mate-selection, none of us would ever marry. But whatever the assumed usefulness of the romantic view, it is evident that married people are vulnerable to complications when certain of their personality traits become evident to each other. The early unrealistic view of one's marriage partner approaches the delusional state, but, since most of us experience at least some of this tendency, it is considered more a phase than a psychosis. Such distortion of reality comes from the very sizable wish that one's mate will be the source of all things good, tender, and protective. Frequently this expectation is not within the romantic's awareness. Indeed, he may be preoccupied with phantasies that he himself is the source of all things good, tender, and protective to his beloved. What cannot be forecast clearly is the size of the bill he may submit to his mate for

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such services. That is to say, he may not be aware that he is counting on an enormous return in kind from his partner.

A quite frequent example of this well-worn path to the rocks involves the marriage of people who initially appear to each other to be towers of strength. At first such couples may relate to each other rather well until something occurs to upset the marital equilibrium. Such an event usually is one which places a greater expectation or demand on one or both for additional strength and self-reliance. Thus, an employment crisis (promotion as well as demotion) or a pregnancy can intrude with the result that the romantic blindfold is torn away by the painful demands of reality. To render this new situation even more difficult, the couple may not have the perceptiveness to appreciate the more central causes of their difficulty. Instead, each may be puzzled by the other's attitude; one feels misunderstood and unappreciated while the other correspondingly feels unrewarded, hurt, and indignant. What is of concern here is that each partner's energies now become directed toward self-justification and establishment of innocence. Once this effort is rigidly set, old resentments are dredged up and a disorganized war is the order of the day—and night. It is evident that the extreme of romantic overridealization has the potential of shifting with remarkable rapidity to the opposite extreme in which the partner is experienced as evil rather than good, rough rather than tender, neglectful rather than protective.

Can such a couple use marriage counseling to an advantage? The answer must come primarily from the combatants. The counselor should listen to discern how much the complainant's motive is in the area of self-justification (i.e., a need for victory) and how much comes from a desire to cure the marital discord. When the motive primarily is to have a referee declare someone the innocent victim and the other a neglectful, selfish, abusive person, the outlook is dim. One-upmanship is very popular and involves keeping score of who abused the other first.

The first obstacle to be overcome in the marriage counseling situation is the failure to delineate roles. Occasionally a mate will come for the officially stated reason of marriage counseling only to restrict his discussion to some legal aspects of separation and divorce. This should be drawn to the client's attention so that the counselor's role and skills will be clearly defined. Exploration of facets of personality need not prevent consultation for expert opinion in other areas such as the

legal and religious. Once the problem of the counselor's role is solved the counseling session may proceed to the second hurdle, namely, the avoidance of being swept along by the intensity of the client's feelings. By the time a consultation is sought the client may well be caught up in a turmoil of emotions, such as apprehension, discouragement, anger, indignation, and the like. Under the pressure of these feelings the client may state his problem as an accusation of the mate rather than as an effort at clarification of the causes of discord and then proceed promptly to ask for a verdict, i.e., for a recommendation that the marriage be dissolved. If the counselor responds to this pressure for the quick answer, he serves no function as clarifier or counselor but is only a convenient blotter to absorb the client's guilty feelings. Before any answers are given facts must be obtained. And "facts" are what the counselor, not the client, decides the facts are.

The third major step in the marriage counseling situation is similar to the diagnostic effort in medicine and involves a procedure which may be termed "a restatement of the problem." For example, the complaint of abdominal pain ultimately must be restated in terms of a more specific condition such as acute appendicitis or psychogenic intestinal disturbance. Similarly, the gynecologist is aware that a number of patients with presenting complaints of lower abdominal pain are found to have little or no tissue disturbance but considerable concern, apprehension, and conflict over some sexual problem. The marriage consultation also presents opportunity for restatement, a matter which might be overlooked when the presenting complaint is a sexual matter which at first glance appears convincingly to be the cause of the rift.

Most important is the determination of how focal or how widespread the problem is. Does the client need only some instruction in anatomy, physiology, technique? Does he need only explanation and reassurance? Or is the sexual complaint more a small though dramatic example of a more basic and diffuse adjustment problem of marriage? For example, rivalry for dominance in marriage is common and is expressed frequently in the sexual area. Much marital trouble derives from the granting and withholding of sex as reward and punishment. The counselor is challenged by the ingenuity marriage partners display in trying to justify their particular sexual attitudes. It takes some clients a while to accept the notion that attitudes about sex can cause more problems than sex itself. And to complete this descriptive circle,

attitudes about sex usually are consistent with the client's other attitudes about himself and his mate. Qualities of warmth, distance, tenderness, shyness, and many others are not unique to sexual conduct and should be viewed in the context of the whole personality. Therefore, a presenting complaint concerning sex frequently needs re-statement in order to characterize usefully the total marital relationship.

Married couples deal in many differing ways with sexual urges. The commonest error in assessing the matter of adjustment to the sexual drive is the assumption that there is a set standard of sexual behavior as regards frequency, duration, technique, and response. Yet the fact is that what might be an adequate outlet for one couple may be quite unsatisfactory for another. Furthermore, in the strict biologic sense a particular way a couple has of dealing with sexual matters may not be adequate, but it is important to avoid any abrupt disturbance of equilibrium, especially when the sexual matter is an incidental finding and not the presenting complaint. On the other hand, when the presenting problem has to do with sex it is important to make tactful inquiry into the specific difficulty. Most frequent are complaints involving various degrees of impotence, frigidity, excessive demands, and lack of responsiveness. Less frequent but not rare are complaints having to do with various sexual dysfunctions such as transvestism. Less well known but still by no means rare is the companionable but nonsexual marriage. The married virgin of many years' standing tends to be unique in her uncomplaining failure to seek professional help promptly.

Picture the following: The news of a not uncommon type of marital split erupts suddenly within the community. No one would have thought that the couple we shall now discuss has had anything but a most successful marriage. The story is very much the same—a marriage of 20 years, children, successful career, interest in community affairs, and a loyal, devoted and considerate relationship. The dissatisfied husband suddenly informs his wife that their marriage has always been a failure and he demands a divorce. The mate is jolted with surprise and totally puzzled, since the marriage has always seemed successful to her. In pondering the situation the rejected wife concludes that something is wrong with her husband and goes to her physician-counselor with the complaint that the rejecting husband must be sick in some way.

Many of these situations consist of one mate who does not communicate his feelings clearly and

the other who is not adequately perceptive. The poor communicator fails to share his feelings and ideas through the years and becomes progressively more resentful, while the unperceptive one fails to sense un verbalized feelings and continues to maintain the fiction that their relationship is just fine. It is remarkable how quiet and well adjusted things seem when one partner talks too softly and the other has the hearing aid turned off.

To discern the full story usually requires interviews with both partners in such a way that the prevailing attitude is one of exploration and not of placing blame. Most of these marital situations disintegrate from generous contributions by both partners, although admittedly there may be varying ratios of responsibility. In the aforementioned composite case the early marriage was characterized by the busy activities of both student-husband and breadwinner-wife. An expected chain of events followed, husband finally establishing himself in a career and the wife then devoting herself to home and children. His increasing responsibilities gradually left him with a correspondingly increased need for solicitude and tenderness from his wife. The wife was not perceptive of her husband's needs, particularly since his substantial success fitted in with her unperceptive assumption that he was an inexhaustible tower of strength without dependency needs of his own. When suppression of his feelings failed to cope with his continuing unmet needs he suddenly demanded an exit from what had become to him an intolerable marital circumstance. At this point the counselor must routinely check himself for preconceptions and prejudices which could affect his judgment. Does the husband's uncompromising stubbornness alienate him? Does the wife's equally stubborn nonperceptiveness aggravate him? Does the husband's demand for a divorce from a loyal and hardworking mate who had helped him through early studies prove him to be an ingrate? Does the counselor feel that he himself could have been a better mate to both? And so on, through a long inventory of possible reactions. After these precautions the couple was given a diagnostic formulation describing the contribution of each to their chaotic marital status, and a recommendation was made for further counseling.

Essential to effective marriage counseling in such cases is the counselor's maintenance of objectivity and his refusal to be manipulated into taking sides. This is especially important when only one of a couple comes for help, usually with a lengthy story of the partner's responsibility for steering the marriage into disaster. Frequently

the counselor is told that the client's partner would never consent to an interview, but with gentle insistence the client can be persuaded to inform the mate that a conference would be helpful. It is only occasionally that the client's mate will refuse an invitation to come and present his or her view of the situation.

Special precaution should be taken in those instances in which one partner wishes the counselor to "talk some sense" into the other. To follow this request quickly more often than not only tends to add more trouble to an already unhealthy situation. When many efforts are made to manipulate the counselor it is a fairly safe assumption that manipulateness has been one of the toxic irritants to the floundering marriage.

Occasionally the counselor's help is requested not because of differences between the partners of a marriage but, for example, because of problem behavior in a child. Repeated teen-age promiscuity can result from many causes, one of them being a kind of marital adjustment which though productive of no gross conflict between the parents nonetheless may have a deleterious effect upon the child's development. In some such instances each parent unwittingly depends upon the other for the firmness and discipline necessary in child-rearing. Insufficient parental control resulting from excessive parental interdependence can result in inadequate self-control in the child. The remedy to such a situation may necessitate parental guidance, a kind of marriage counseling which can be difficult for the parents to understand and accept since they experience the difficulty not as a marital problem but as a problem child. Counseling parents

in such a situation requires not only an opportunity for the parents to express feelings of grief, disappointment and resentment over the child's behavior, but also a willingness to take a good look as to how their relationship may have helped predetermine their child-rearing practices. Of course such situations must be differentiated from the promiscuity symptomatic of other conditions such as brain syndrome, depression, and psychosis. When further question as to diagnosis exists, psychiatric consultation is indicated.

To conclude: Marriage counseling becomes more effective when a client can be encouraged to explore his problems despite the presence of resentments and anxieties, and when the counselor can blend his technical expertness with humility. The counselor functions best as clarifier rather than as referee and does not tell people to marry or unmarry. He displays one of his greatest skills in avoiding being swept up by the client's feelings and manipulations. He avoids quickly dismissing the young married couple seeking help very early with a casual "don't worry, everyone has these troubles," just as he avoids quickly dismissing the late-coming couple whose marriage seems to have been unsatisfactory for years. Rather, the counselor must be prepared to explore the marital relationship with a minimum of preconception. He has in mind that marital discord can arise from numerous causes some of which may be symptomatic of important bodily disease. For at least this reason marriage counseling must continue to be part of direct or supervised medical patient-care.

Family Planning—Physician Responsibility*

BENEDICT J. DUFFY, JR., M.D.†

THE GENERAL SURGE of public interest in fertility control has had important repercussions within the medical profession. There is good evidence from repeated public opinion polls that all sectors of the American community strongly favor the broad dissemination of birth control information and increased availability of birth control services for both private and clinic patients. The development of a dialogue on the issue has come from a variety of sources including statements of the President, the work of Planned Parenthood and private foundations, the increased recognition of the problem by professional and scientific organizations, government hearings, theological discussions, and welfare agency needs. The result of all this is that the practicing physician is increasingly involved in the medical and socioeconomic aspects of family planning and responsible parenthood.

This is recognized in the 1964 policy statement of the American Medical Association‡ which recommends that:

1. An intelligent recognition of the problems that relate to human reproduction, including the need for population control, is more than a matter of responsible parenthood; it is a matter of responsible medical practice.

2. The medical profession should accept a major responsibility in matters related to human reproduction as they affect the total population and the individual family.

3. In discharging this responsibility, physicians must be prepared to provide counsel and guidance when the needs of their patients require it or refer the patients to appropriate persons.

4. The AMA will take the responsibility for disseminating information to physicians on all phases of human reproduction, including sexual behavior, by whatever means are appropriate.

World Needs

President Johnson initiated Federal action in the field of fertility control with his 1965 State of the Union Message which included a pledge to "seek new ways to use our knowledge to help deal with the explosion in world population and growing scarcity in world resources." The vital balance in world ecology between population and resources has been seriously disturbed in the past decades, and it is this increasing gap between numbers of people and the means for their support which has focused interest on the need for slowing down the population growth rate in developing countries.

The validity of the current human arithmetic is not seriously questioned, although the interpretation of the long-term significance of the current trends is a matter of real debate. There are countries in this hemisphere with population growth rates of an almost unbelievable 4 per cent per year, which, like compound interest on an ever-increasing base, result in a doubling of population in little more than a decade. There is no present evidence that this situation is changing in any favorable way in these countries, although a general decline in the birth rate is noted world-wide in the more developed areas. In general, food production and economic development lag behind population growth in the poorer areas, and 2 theories of action exist to help redress this imbalance. Both involve a concern for government support of fertility regulation, but there is an important difference in emphasis as to whether scarce government funds should be used primarily for birth control programs or invested in general education, food technology, economic planning, and health and welfare programs which will all contribute ultimately to an improved national economy and increased personal incentive for family welfare, and presumably, regulation of fertility.

There have been substantial family planning programs developed in Puerto Rico, Taiwan (For-

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‡ The AMA Committee on Human Reproduction has provided the practicing physician with a concise guide to the use of such methods as the oral hormonal contraceptives, the intrauterine devices (IUD's), the various local methods (condom, diaphragm, chemicals), and the rhythm method. *J.A.M.A.*, 1965, 194, 462.

mosa), India, Pakistan, South Korea, and Tunisia. It is too early to make any estimate of the eventual outcome, but the initial optimism of some enthusiasts has not been justified. There is no planned program in a developing area which has yet been successful in reducing the birth rate just as there is no developed area where there has been a significant fall in the birth rate, such as in Western Europe or in the U. S., where this decline in fertility could be said to be due to any planned program of medical birth control services.

U.S. Problems

The National Academy of Sciences, in its 1965 report entitled, "The Growth of U.S. Population," made some judicious observations on the impact of high birth rates among the disadvantaged groups in this country. The Academy recommended that "family planning should be an integral part of public health programs and of individual medical care. Specifically, family planning discussion and instructions should be regarded as an essential feature of prenatal and postnatal care, and of maternal welfare programs." Also, "nonmedical agencies (private and public) responsible for welfare services should include instruction in effective family planning as an essential component of their welfare programs."

The rate of U.S. population increase is approximately 1.5 per cent yearly, which will result in a national population of over 300,000,000 by the year 2000. There is no serious belief that the U.S. growth rate is itself a problem in the present state of a highly productive economy. There are, however, real concerns about the firmness of our economy and the uneven distribution of both material income and economic opportunity. The financial strain is intensified, and some social welfare needs necessarily are curtailed due to our enormous military expenditures.

The 1965 White House Conference on Health estimated that approximately 5,000,000 economically-deprived women have a need for family planning services and a desire to utilize public assistance if available and that only some 500,000 of these are presently being accommodated, largely in Planned Parenthood clinics. This is cited as the "gap" in present facilities in terms of need and justification for government support of public family planning clinics and services.

There are various government sources for possible financing of family planning clinics including grants from the Office of Economic Opportunity, the Children's Bureau of HEW, and the Bureau of Family Services of the Welfare Administration.

The enactment by states of Title XIX, an amendment to the Social Security Act, will provide a broad range of medical services to low-income individuals and families. Funds available to the states under Title XIX, also called 'Medicaid,' can be used to develop family planning services as part of the state's effort to provide comprehensive health services.

Specific support for an integrated program of comprehensive health and family planning service is provided under P.L. 89-749, the Comprehensive Health Planning and Public Health Service Amendment, which gives authorization for family planning grants by the Public Health Service to public agencies, universities, hospitals, and voluntary organizations.

District of Columbia Programs

There has been a long tradition of family planning programs within the District of Columbia. Following a visit by Mrs. Margaret Sanger in 1931 and the change in the Comstock Law to permit the interstate shipment of birth control materials in 1936, the Washington D.C. Mothers' Health Association was founded in 1937. Support was afforded for a social worker at the George Washington Hospital Clinic and the funds made available for the support of indigent patients. There has been a continuing program of support and services for patients at hospital clinics and at the Planned Parenthood clinics.

On April 1, 1964, with the support of a Congressional grant for family planning, the District of Columbia Health Department began a program of birth control services to:

- a. Women married or unmarried, regardless of age, who have been pregnant and are patients at the time at one of the Department's clinics.
- b. Women whose babies are about to be delivered or have just been delivered at the District of Columbia General Hospital.
- c. Applicants for Aid to Dependent Children who are referred by the Department of Welfare.

In testimony at the 1965 U.S. Senate hearings on the "Population Crisis,"* Dr. Murray Grant reported that there had been a reduction in the expected number of pregnancies from approximately 200 to an actual 31 pregnancies in the first 2,000

* Hearings before the Subcommittee on Foreign Aid Expenditures of the Committee on Government Operations of the U. S. Senate on S.1676, Part 2B. Washington, D. C.: U.S. Government Printing Office, 1966, pp. 1089, 1101.

women who had enrolled in the District of Columbia program. There was also mention of the "over 4,000 illegitimate babies born each year in the District of Columbia," indicating that there is no lack of potential clientele for the expanded District program of public birth control service for low-income patients.

Physician's Responsibility—The Family

There have been a number of professional statements concerning the need for physician involvement in family planning programs. A recent one which admirably states the range of physician participation is that of the American Academy of Pediatrics. It is particularly useful to our discussion since it emphasizes the need for education in sexual responsibility and the needs of both parents and children:

"The American Academy of Pediatrics recognizes that an intelligent programme of total health care of children should include considerations of family planning. Pediatricians should become informed about the social, health and demographic problems associated with prolific child-bearing. They should work with parents and with teachers in educational activities designed to give young people a proper sense of responsibility about sexual matters, marriage and parenthood. When the needs of their patients require it, pediatricians should be prepared to discuss conception control in a manner consistent with the creed and mores of the individuals concerned, or to refer their patients to appropriate persons for such advice. The American Academy of Pediatrics further believes that Federal, state and local governments should include family planning as a part of their health programmes."

In addition to learning the physiologic facts of medical contraception, the physician must develop some understanding of the psychologic aspects of sexuality and parenthood. An organization which has been developed to meet this latter need is the Sex Information and Education Council of the United States (SIECUS)* which is interested in the education programs which emphasize man's sexuality as a vital part of his total health and well-being and an important process to be carefully studied and more objectively understood. This is a considerable step forward in professional circles in which sexual understandings

frequently have derived from discussions of medical psychopathology.

Family planning is more than birth control. The emphasis should be on an expanded, better life for the family. This has the great advantage of limiting any sociologic misunderstanding or ethical disagreement as to the purpose of the program. The practicing physician who seeks to help the individual patient must also be concerned for the family. All too often the family unit does not exist in any real sense because of extremes of social blight, economic deprivation, or psychologic handicap. It is, therefore, meaningless to speak of disintegration of a family structure which, in fact, never existed.

Programs should be judged on whether they support or disrupt family life. In the District of Columbia, for example, the "man in the house" rule discriminates against low-income families when an able-bodied, unemployed male is present so that the best possibility for the family to receive welfare payments is for the husband to abandon his family. The rule was obviously established in the interest of limiting welfare payments to the absolutely dependent, but in so doing it may destroy the family and perpetuate dependency.

Programs to provide an increased availability of job reeducation and employment opportunities should be supported as a means to improve family life and encourage motivation to family planning and responsible parenthood. There is little reason to expect responsibility in family planning when expectation of any better life for the present generation is as limited as it has been in our urban slum areas. The development of neighborhood health programs and other community action projects for disadvantaged families is the best and perhaps only means of encouraging voluntary, responsible parenthood.

The June, 1965, report of the National Advisory Child Health and Human Development Council urged the further development of a program to promote "the day when each child is wanted, when parents will be able to exercise free choice as to the number of children they wish to have, when each fertilized egg will have the greatest chance to develop into an infant that will be born physically and mentally normal, and when each newborn infant will have the greatest possible opportunity for surviving and developing to productive maturity."

This is an appropriate challenge for this Medical Society and, indeed, for all of society.

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Oral Contraceptives*

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IT IS APPROPRIATE that a discussion of oral contraceptives, which have received such wide acceptance in the past decade, be included in a symposium on family planning. This discussion includes mention of the numerous preparations now available, their mode of action, effectiveness, advantages and limitations, with particular reference to data recently released pertaining to their long-term use. Precautions and contraindications in the administration of these hormones should be emphasized.

As early as 1943 Hamblen¹ and others demonstrated the depressive effect of estrogens on pitui-

particularly 19-nor-steroids alone or combined with ethinyl estradiol or the 3-methyl ether of the latter, has been under investigation since 1954; and in 1955 Pincus, Rock and others,² using combinations of estrogens and progestogens in field trials in Puerto Rico, were able to demonstrate the remarkable effectiveness of these hormones in large-scale birth control application.

Since the introduction of Enovid®, the first of the so-called "pills" to be released for clinical use, a number of other preparations consisting of combinations of estrogens and progestogens have become available. The list now includes the following:

TRADE NAME	COMPOSITION	MANUFACTURER
Enovid	9.85 mg. norethynodrel +0.15 mg. mestranol	G. D. Searle & Co., Chicago, Illinois
Enovid	5 mg. norethynodrel +0.075 mg. mestranol	
Enovid-E	2.5 mg. norethynodrel +0.1 mg. mestranol	
Ovulen	1 mg. ethynodiol diacetate +0.1 mg. mestranol	
Norinyl	2 mg. norethindrone +0.1 mg. mestranol	Syntex Laboratories, Palo Alto, Calif. Ortho Pharmaceutical, Corp., Raritan, N. J.
Ortho-novum	10 mg. norethindrone +0.06 mg. mestranol	
Ortho-novum	2 mg. norethindrone +0.1 mg. mestranol	
Provest	10 mg. medroxyprogesterone acetate + 0.05 mg. ethinyl estradiol	Upjohn Co., Kalamazoo, Mich.
C-Quens	0.08 mg. mestranol (15 tablets) + 2 mg. chlor-madinone acetate (5 tablets)	Eli Lilly & Co., Indianapolis, Ind.
Oracon	0.1 mg. ethinyl estradiol (16 tablets) and 0.1 mg. ethinyl estradiol + 25 mg. dimethisterone (5 tablets)	Mead Johnson Laboratories, Evansville, Ind.

tary gonadotropins as well as a similar effect on the secretion of follicle-stimulating hormone of large doses of progestogens or of smaller doses of progestogens fortified with estrogens. The suppressive effect on ovulation of oral progestogens,

The primary action of all these preparations is the suppression of ovulation by depression of the pituitary production of the follicle-stimulating hormones (FSH) and the luteinizing hormone (LH). Involved also are changes in the endometrium which make it inimical to nidation. There is also reason to believe that, under the influence of these hormones, the cervical mucus fails to change to the receptive state necessary for the passage of the sperm.

It will be noted that 2 of these, Ortho-novum 2 mg. and Norinyl 2 mg., are identical. The first

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5 preparations are mixtures of estrogen-progestogen while the last 2 are "sequential" products with estrogen alone the first 15 or 16 days followed by 5 or 6 days of combined estrogen-progestogen administration. Their method of use is similar. The AMA Committee on Human Reproduction advises as follows:

"One tablet daily to be taken at the same time of day for 20 or 21 days of each cycle, beginning on Day Five. . . . Regularity of dosage is essential. Any omission will reflect itself in increased rates of pregnancy or of breakthrough bleeding. The patient should be instructed that if she forgets to take her daily dose, she should take it as soon as she remembers it, even if this means taking it at the same time as the following dose. With the omission of a tablet for more than 1 day, she should be advised to finish out the remaining tablets but at the same time use one of the more effective local contraceptive methods for the remainder of that cycle. . . . Patients should be warned to begin a new treatment cycle 1 week after this last tablet in cases of amenorrhea or failure of withdrawal bleeding."³

Caution must be observed in the use of oral contraceptives. A careful history and physical examination including a Pap smear of the cervix should be done prior to prescribing these preparations. The reaction may be compared to that found in pregnancy, and this would, for instance, contraindicate their use in diabetics. Stimulation of the growth of fibroids under their hormonal influence, also, mimics that seen in pregnancy. Still more disturbing is the fact that prolonged periods of amenorrhea following discontinuance of the use of the "pill" have been observed. Dodek and Kotz⁴ recently reported 2 such cases successfully treated with cortisone. These authors question the validity of statistics previously accepted as showing an increase in fertility following the use of these hormones and narrowly limit their indications for this method of contraception. Central nervous system considerations would include the occurrence of depression and epileptiform convulsions. The rare occurrence of familial jaundice of pregnancy has been observed. Lactation and the wish of the postpartum patient to nurse are incompatible with the use of the "pill." Contraindications also include preëxisting genital or breast cancers with some exceptions; preëxisting liver disease, dysfunction, or jaundice; previous thrombophlebitis or pulmonary embolism or cerebrovascular accident.

The chief side-effects of oral hormonal contra-

ceptives are spotting, breakthrough bleeding, nausea, vomiting, and breast tenderness. Weight gain may be a problem, but in at least 1 series the incidence of weight loss was comparable to that of weight gain.⁵ The side-effects tend to diminish with successive cycles and can be relieved by adjustment in dosage or change in products. Beneficial side-effects also are frequently noted. Dysmenorrhea may be relieved. The periods are usually less heavy. Acne is not infrequently improved. The assurance of the patient in the virtually 100 per cent effectiveness of the oral contraceptives is a source of great relief, particularly in those women who have had failures with other methods. These drugs are also helpful in the regulation of irregular menopausal cycles. This is particularly valuable when the onset of menopause occurs early when pregnancy, although unlikely, might be a threat.

Of particular concern are the possible long-term effects of these medications. In April 1965 the findings of a large-scale, oral contraceptive research project involving 11,711 women in 38 selected Planned Parenthood Centers distributed across the United States was released by Drs. Alan Guttmacher and Gordon Perken.⁶ This program was designed to study and follow women who had taken Enovid 5 mg. for 2 years continuously. The findings in this group of 11,711 patients for a combined use of 29,124 years were as follows:

"No new side-effects appeared with use up to 42 months. Dysmenorrhea was relieved in 3 out of 4 women. Menstrual irregularity which occurred in 22 per cent of the patients was eliminated while on the hormone. Amenorrheal cycles were found in 5 per cent of the women; 4 per cent had some breakthrough bleeding and 15 per cent some spotting. Libido was unchanged or improved in 94 to 95 per cent of these women. 'Well-being' remained unchanged or improved in 93 to 95 per cent. Incidence of abnormal Pap smears did not increase with continued use of Enovid 5 mg. Menstrual depression found in 11 per cent of the women was reduced to 6 per cent. Nausea and edema occurred at least once during the study in 5 per cent of the women. Thrombophlebitis in this group appeared to approximate that of the untreated population."

The virtual 100 per cent effectiveness of oral contraceptives and the high rate of acceptability have resulted in their widespread use and, it is suspected, in some cases their abuse. They should be used only under careful and continuous medical supervision.

The Use of the Intrauterine Device in Private Practice*

THOMAS A. WILSON, M.D.†

MANY HUNDREDS OF YEARS AGO the drivers of camel caravans had come to know that the female camel would not conceive if a pebble were placed in the uterus; possibly this was done by forcing the stone through a reed or other hollow carrier. Whether or not this produced undesirable side-effects, we do not know. The introduction of a foreign body in the uterus is not good practice and is to be avoided, according to standard medical thinking.

In the 1920's Grafenberg presented his now famous ring to the medical world. Serious and sometimes fatal side-effects from the use of the Grafenberg ring justly caused it to fall into disrepute. Had antibiotics been with us then this story might have been different, because the most serious side-effect was infection and prolonged morbidity and even fatality.

The development of virtually inert plastic materials for use in the human body stimulated the experiments with intrauterine devices. Catgut, silver wire and stainless steel, as well as other materials, are still being used. It would seem that the intrauterine device is a permanent part of the several methods for the control of fertility. Of those used in this country, the Loop, Spiral, Bow and Ring have been statistically studied by Planned Parenthood as well as other organizations. The pooled figures of Planned Parenthood have eliminated the Bow and Ring because of the high percentage of expulsion and pregnancy. This leaves the Loop and Spiral for consideration. These latter both have appendages which extend through the cervix, allowing easy removal. The incidence of pregnancy is about the same with the Spiral and the Loop, but it seems that expulsion, bleeding and pain are higher for the Spiral, and

hence at the present writing the Loop is probably superior.

The mode of action is uncertain. It is postulated from studies of monkeys and rats that uterine and fallopian tube motility are increased above normal physiologic limits by the presence of a foreign body in the uterus. This would cause the ovum to pass from the ovary to the uterus before fertilization and the necessary cell divisions could take place. There is no evidence that repeated abortions occur. That abortions do occur with the uterine device in place is certain, but these abortions occur infrequently and may or may not be caused by the intrauterine device. Until more is known of the action, it is comforting to think that the intrauterine device (IUD) is preventing pregnancy.

The insertion is easy if the directions which come with the device being used are followed. Some knowledge of gynecology is necessary, but certainly anyone adept at performing a pelvic examination is qualified to insert the intrauterine device. The axis of the uterus is first determined, the anterior or posterior lip of the cervix, whichever is appropriate, is grasped by the tenaculum. The cervical canal is sounded; the uterine dressing forceps is almost ideal for this because, once past the internal os, the forceps can be gently opened—dilating the cervix, thus making introduction of the IUD simple and relatively painless.

Selection of the patients is important. The parous patient tolerates the device quite nicely, while most nulliparous patients experience so much pain and bleeding and such a high incidence of expulsion that it is not recommended for them. On the other hand, when a patient is insistent that she try it, I insert the IUD and often it is well tolerated. In a busy clinic where time is important most physicians refuse any nulliparous patient, even on a trial basis.

The individual who presents herself with abnormal bleeding, missed periods, or cervicitis, pelvic infection, repeated episodes of salpingitis, or pelvic tumor is first investigated thoroughly

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before insertion of the device. A smear for tumor cells, if this has not been done recently, is also in order. Sterile precautions are observed and the cervix is swabbed with an antiseptic prior to insertion.

Concerning side-effects, the most frequent are bleeding, expulsion, and cramps, in that order. The device is most often expelled with a menstrual period and most frequently in the first 3 months; thereafter the likelihood of expulsion is much less. When expulsion occurs, the device may be reinserted, either the same or a different one. After 2 expulsions I urge the patient to adopt another method.

Bleeding, both between periods and increased flow with the period, is to be expected but is seldom alarming. The use of vitamin C, ergot derivatives, and most recently oral nasal decongestants containing epinephrine-like substances have been used to control unusual bleeding. Presumably the decongestants act as vasoconstrictors to all mucous membrane surfaces. I frequently remove a device because of continued spotting for longer than ordinary times; this is of course mandatory, otherwise some abnormal condition would be ignored. Infrequently I have to remove the device as an emergency measure because of hemorrhage.

Cramping and pain are sometimes so intense that the IUD is removed immediately after placement. These patients become pale, perspiration appears on the forehead, the pulse rate increases, and fainting sensations are expressed, in fact, all the symptoms of impending shock. Removal of the IUD and a period of rest promptly return the patient to normal. Ordinarily, cramping is mild, lasting only a few hours, and is relieved with common analgesics.

Pelvic inflammatory disease can be a complication, but this is rare. Antibiotics readily control infections, and removal of the IUD is not ordinarily necessary.

Perforation of the uterus may occur. It is highest with the Bow, being on the order of 1 in 300 insertions. With the Loop and Spiral, perforation is reportedly 1 in 2,500. Perforation is also higher in a postpartum patient, presumably because of the softer, less resistant myometrium. If 2 or 3 menstrual periods take place before insertion, the rate of perforation is very low.

Pregnancy is considered a complication and occurs in about 2 per cent of insertions of the Loop and Spiral. Certainly this compares favorably with all other methods, excluding those who take the "pill."

There is no evidence that exfoliative cytology is altered in those having an intrauterine device. Sporadic reports in small series have shown dysplastic changes, but in large groups this has occurred no more frequently than in the general population.

With these points in mind, it might be of interest to relate our experience with the use of the Spiral and the Loop in private practice. I first began to use the Spiral in July of 1964 and inserted 325 of these.

Complications with the Spiral included what we initially thought were 6 pregnancies. It was subsequently found, however, that 2 of these had expelled the device and had not been aware of it. Two patients had perforations of the uterus, 1 who delivered normally with the device being subsequently removed in the postpartum period by laparotomy. The other patient after a normal delivery had a reinsertion which was painless at her 6 weeks' postpartum examination. The device was not seen at her 4 weeks' checkup after insertion but was felt on rectal examination to be in the cul-de-sac. The patient was informed it could be left in place or could be removed as she wished. She subsequently returned, and it was removed by doing a colpotomy some 2 months later. In 2 patients the Spiral was removed; both wished to seek abortion and we have no follow-up on them. To my knowledge, I have not had an abortion which was caused by the Spiral.

One patient developed an acute surgical abdomen and was found to have an ectopic pregnancy which was taken care of by another physician at Fairfax Hospital. The Spiral was removed at the patient's request, and she is now using other contraceptive measures.

It is interesting to note that 2 patients removed their own Spirals at the time of douching, apparently engaging the opening of the douche nozzle with the tip of the Spiral.

An occasional husband complains of penile pain on contact with the Spiral, necessitating the removal from 5 patients at their husbands' request. Six patients have asked for removal of this device because of decreased sexual desires or response.

Two patients developed salpingitis. In one the device was removed in the emergency room at a hospital but was reinserted some 4 weeks later, and this patient has done well. The other patient was treated with antibiotics with good response without the device being removed.

The expulsion rate is about 10 per cent with both the Spiral and the Loop. As of June 1966 I

(Continued on page 24)

The Valsalva Maneuver in Cardiovascular Diseases

An Application of Basic Pathophysiology to Clinical Practice*†

CHARLES B. UPSHAW, JR., M.D.‡

IT IS THE PURPOSE of this paper to review and summarize basic studies pertaining to the cardiovascular responses to the Valsalva maneuver and to demonstrate their application to the clinical practice of cardiovascular diseases. Dr. A. M. Valsalva is credited with writing the following passage about 1704: "If the glottis be closed after a deep inspiration, and a strenuous and prolonged expiratory effort be then made, such pressure can be exerted upon the heart and intrathoracic vessels that the movement and flow of the blood are temporarily arrested."¹ The maneuver was popularized by E. F. Weber in 1850¹ and a mild controversy has arisen in deciding whether Valsalva's or Weber's name should be honored by use with the eponym.² Nevertheless, the maneuver itself has provoked considerable thought and research in the last hundred years. It is simple and safe and can be performed at the patient's bedside or in the physician's office. In a modified form it is used in our everyday activities, and physicians in most specialties of medicine use this maneuver in their practice. The cardiologist employs this maneuver to assess the integrity of the cardiovascular system, to treat paroxysmal tachycardia, and to sharpen his diagnostic acumen (for example, in primary aldosteronism and in the anatomic location of murmurs).

The Valsalva maneuver (Vm) itself is performed usually with the patient resting in the supine position; from the inspiratory mid-position he blows suddenly and forcefully into the tubing attached to the clinical blood pressure cuff to a level of 40 mm. Hg; this level is maintained for about 10 seconds. By placing a small, constant leak in the tubing (such as an 18-gauge needle),

the intra-oral and intrabronchial pressures remain nearly equal during the strain phase. The maneuver requires the patient's full coöperation.

An understanding of the Vm requires an understanding of the cardiovascular reflexes controlling blood pressure and heart rate.³ Stretch receptors located in the carotid sinus and aortic arch are stimulated by changes in systemic arterial pressure. Impulses from these receptors are carried by the glossopharyngeal nerve (cranial nerve IX) and the vagus nerve (cranial nerve X) to the "cardiovascular regulatory centers" located in the medulla oblongata. Connections with the hypothalamus and cerebral cortex are made here, and bidirectional impulses between these higher centers are integrated with impulses to and from the sympathetic and parasympathetic nervous systems. Sympathetic nerves pass to the heart, and their stimulation causes an increase in cardiac rate and cardiac contractility. Sympathetic fibers pass to the systemic arterioles, and their stimulation causes vasoconstriction, increasing peripheral resistance. Parasympathetic fibers pass by way of the vagus nerve to the heart and, when stimulated, cause a slowing of the cardiac rate.

An increase in systemic arterial pressure, then, stimulates the stretch receptors to increase the frequency of discharges passing to the "cardiovascular regulatory centers." This causes a decrease in sympathetic discharges mediated over nerves passing to the heart and peripheral arterioles and an increase in parasympathetic discharges to the heart. The result is a decrease in cardiac contractility, a lowering of peripheral arterial resistance, and a slowing of the heart. These reflex changes cause a lowering of the systemic arterial blood pressure.

By way of contrast, when there is a drop in systemic arterial blood pressure a series of reflexes is set in motion just the reverse of those outlined above, and there results an increase in cardiac contractility, a raising of peripheral arterial

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resistance, and a speeding up of the heart rate. These reflex changes cause a compensatory raising of the systemic arterial blood pressure.

The Normal Cardiovascular Response to the Valsalva Maneuver

The response to the Vm may be divided conveniently into 4 phases.^{4, 5} With the onset of the strain, pressure rises simultaneously and equally in the thorax, abdomen and cerebrospinal fluid; the pressure is transmitted to all arteries and to those veins without valves. The immediate blood supply to many organs (for example, brain and heart) is thus unaltered. In the skin and muscles, however, the venous valves shut and, initially, the effective arterial pressure is raised by approximately the same amount as the intrathoracic pressure.

In phase 1 then, at the onset of the strain, there is a sudden rise in systemic arterial pressure (figure 1); the increase in intrathoracic pressure

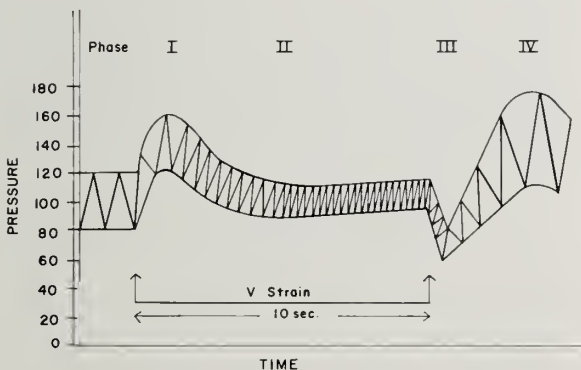


FIG. 1. Normal cardiovascular response to the Valsalva maneuver. Note abrupt rise in pressure in phase 1 followed by a fall in systolic, diastolic and pulse pressures in phase 2 associated with a faster heart rate. The slight rise in diastolic pressure near end of phase 2 is due to peripheral vasoconstriction. Note elevated pressures and slower heart rate of phase 4.

impedes the flow of blood into the thoracic veins and right side of the heart. The pulmonary reservoir of blood is depleted, and stroke output falls; arterial systolic and pulse pressure begin to fall within 2 seconds of the acute rise in blood pressure.

In phase 2 the systolic arterial pressure and pulse pressure fall to a relatively steady, low level, and the pulse rate increases. If the strain is held long enough (for example, 15 seconds or longer), marked systemic vasoconstriction occurs and there results a rise in mean arterial pressure toward the end of phase 2.

In phase 3, on sudden release of the strain there is a brief, precipitous fall in blood pressure.

In phase 4, as blood surges back to the heart after the strain is released, the so-called "overshoot" or "after fling" occurs. There is a rise in arterial systolic, diastolic, and pulse pressures to heights in excess of the resting levels. These changes result from vasoconstriction (a compensatory change to hypotension which develops in phase 2) plus an increase in stroke output.⁶ The rise in blood pressure is followed by bradycardia.

Three simple clinical tests may be employed to assess a patient's cardiovascular response to the Vm. In the first, the physician palpates a peripheral artery during the strain; he notes the weak, rapid pulse of phase 2 and the bounding, slow pulse rate of phase 4. In the second test,⁷ the blood pressure in the arm is recorded in the usual way before the strain. The cuff around the arm is then elevated to 40 mm. Hg above the resting systolic pressure, and the patient performs the Vm in the manner already described. The initial rise in systolic arterial pressure is recorded quickly. The arm cuff pressure is reduced gradually to record falling systolic pressure from phase 1 through phase 2. Similarly, by elevating the cuff pressure about 15 mm. Hg above the resting level, as the strain is released the "overshoot" of phase 4 may be recorded. In the third test,⁸ the patient performs the Vm while connected to the electrocardiograph in the usual way. The selector switch on the electrocardiograph is turned to record standard lead II, and a continuous tracing is taken before, during and after the strain. The changes in the pulse rate are recorded for all 4 phases (figure 2) and are related closely to changes in blood pressure occurring during the Vm.

The Abnormal Cardiovascular Responses to the Valsalva Maneuver

Abnormal responses are of 3 types (table 1). The first type (figure 3) occurs in patients with pulmonary emphysema without heart failure.^{9, 10} The type of response that these patients have may be described as an exaggeration of the normal response. There is a marked decrease in the cardiac output and a marked narrowing of the pulse pressure during the strain (phase 2). The peripheral arterial pulse may be impalpable at this time. After the strain there is a marked prolongation of the time required for the arterial blood pressure to return to the control values. The mechanism of this exaggerated normal response

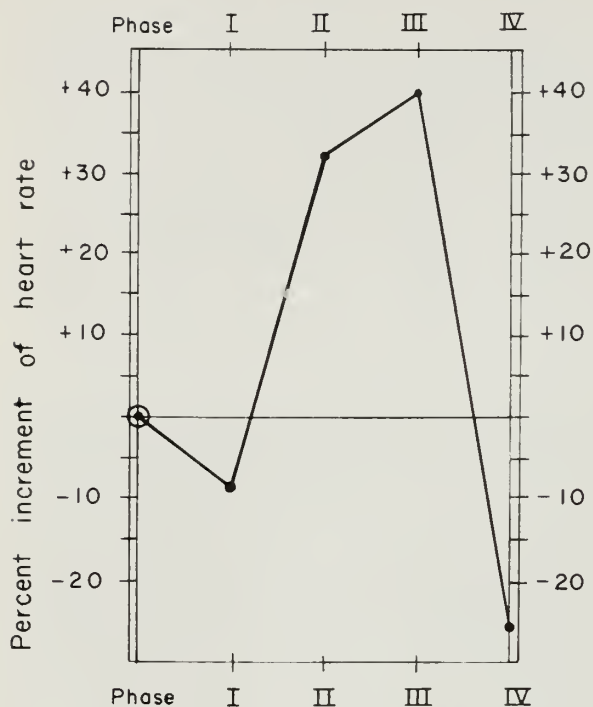


FIG. 2. Normal pulse rate response (ECG) to the Valsalva maneuver. The pulse rate increases (phases 2 and 3) in response to the lowered pulse pressure and slows (phase 4) in response to the elevated pulse pressure. (Adapted from Elisberg.⁸)

TABLE 1: Cardiovascular Response to the Valsalva Maneuver

Normal response:

1. Obesity
2. Pregnancy
3. Malingering
4. Anxiety
5. Hypertension*—not in heart failure
6. Heart disease—not in heart failure

Abnormal response:

1. First type:
 - Pulmonary emphysema
2. Second type:
 - a. Heart failure
 - b. Pericardial constriction
 - c. Tight valvular disease
 - d. Primary aldosteronism
 - e. Altered autonomic nervous system
 - f. Atrial septal defect (intermediate response)
3. Third type:
 - Severe heart failure

* Primary aldosteronism excepted.

is not known, and little experimental study has been published. These patients begin the strain with a small pulmonary reservoir of blood⁹; it is likely that during the strain this reservoir is depleted more than in the normal. The depleted pulmonary reservoir plus the lowered inflow of

blood to the right heart have the effect of decreasing cardiac output quickly, and the result is that systemic arterial pressure and pulse pressure fall dramatically. Patients with pulmonary emphysema often have obliterative pulmonary vascular changes which impede the blood flow through the lungs. This factor would tend to prevent an adequate cardiac output during the strain and to slow the return of cardiovascular dynamics to normal after the strain is released.

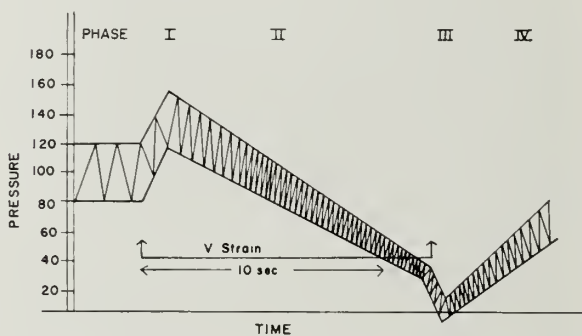


FIG. 3. Abnormal cardiovascular response to the Valsalva maneuver (first type—occurs in patients with pulmonary emphysema). Note marked lowering of the pressures during phase 2 associated with a rapid heart rate. The “overshoot” of phase 4 is delayed and often absent.

In the second type (figure 4) there is little or no change, during or after the strain, in pulse pressure or pulse rate.^{5-8, 11} This is the so-called “square wave” response. It occurs in the following clinical settings: (1) heart failure (left ventricular failure and/or right ventricular failure) due to any cause, (2) pericardial constriction, (3) tight valvular stenosis (aortic stenosis, mitral stenosis)

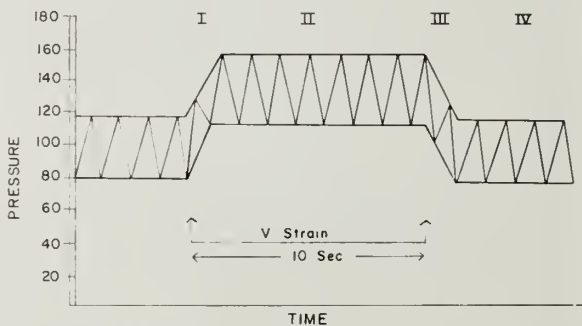


FIG. 4. Abnormal cardiovascular response to the Valsalva maneuver (second type—occurs in patients with heart failure, pericardial constriction, tight, left-sided valvular stenosis, primary aldosteronism, and autonomic nervous system alteration). Note that pulse pressure and cardiac rate remain unchanged during all 4 phases. Elevated pressures in phases 1 and 2 reflect direct transmission of pressure through arterial system.

without heart failure, (4) primary aldosteronism, and (5) autonomic nervous system alteration. Of note is the fact that a normal response occurs in patients who are obese, pregnant, malingering, anxious, hypertensive (from any cause) without heart failure (primary aldosteronism excepted) or in patients who have heart disease of any cause, provided that heart failure or tight valvular stenosis is not present (table 1). The mechanism of the second type of abnormal response to the Vm has been studied carefully and will be discussed in some detail.

Normally during the Vm the systemic pulse pressure falls as does the effective pressure in the brachial artery, left atrium, right ventricle, and right atrium. The circulation time (vena cava to tongue) is prolonged also. In left ventricular failure (or tight aortic or mitral stenosis) the effective left atrial pressure rises about 5 mm. Hg above the resting level at the start of the strain and falls gradually during the strain; similar changes occur in the pulmonary artery pressure, and the circulation time is prolonged. In right ventricular failure (either isolated or combined left and right ventricular failure) there is little or no fall in effective pressures in the left atrium and pulmonary artery during the strain; there is little or no delay in the intrathoracic circulation time compared to controls before the strain.

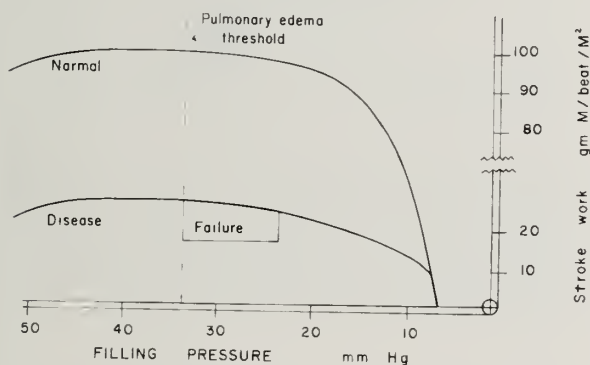


FIG. 5. Starling curves of ventricular function. Note that a shift along the "disease" curve to the right or to the left (e.g., by lowering or by raising the filling pressure between 30 and 20 mm. Hg) results in little change in stroke work (and therefore systolic pressure and stroke output). (Adapted from Gorlin.⁵)

The difference between the normal response and the abnormal response can be explained best in terms of the Starling curve of ventricular function (figure 5). In the high range of filling pressure, small decreases do not affect materially stroke work and stroke output. Thus, in the abnormal

response, the systolic pressure (and therefore stroke work) remains unchanged; yet the atrial pressure (or ventricular filling pressure) falls slowly during the strain. Therefore, the ventricle in this clinical setting is on the flat portion of the Starling curve. Even in the absence of ventricular failure, left-sided valvular stenosis itself may cause an abnormal response.⁵ With tight valvular stenosis the relationship of pressure to flow across the valve becomes flat (figure 6). A marked de-

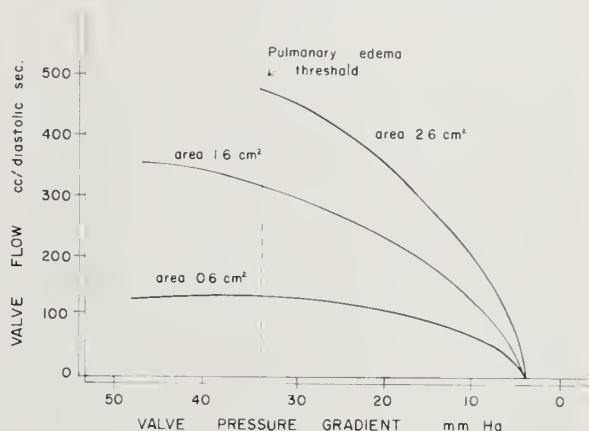


FIG. 6. Pressure-flow relations across mitral valve. Note that a shift along the lowermost curve to left or to right (e.g., by raising or by lowering the valve pressure gradient between 10 and 25 mm. Hg) results in little change in flow across the valve. Number above each curve refers to calculated valve size in square cm. (Adapted from Gorlin.⁵)

crease in the valve pressure gradient results in little or no decrease in valve flow. Therefore, during the Vm the effective systemic arterial pressure, stroke work, and pulse pressure are not changed in a patient with tight valvular stenosis. Further, there is a marked delay in depletion of the pulmonary reservoir of blood due to the obstruction at the valve; this delay results in a slow diminution in the pressure gradient across the stenosed valve.

This type of abnormal response occurs when both ventricles fail or when there is failure of either the left or the right ventricle. Ordinarily it is not difficult to determine that right ventricular failure is present; certain signs, such as distended neck veins, hepatomegaly and ankle edema, help to establish such a diagnosis. In contrast, the diagnosis of isolated left ventricular failure may be more difficult to establish. The Vm in such a clinical setting is particularly useful. When right ventricular failure is absent, the finding of this type of abnormal response may be attributed to a left-sided lesion (left ventricular failure or left-sided stenotic lesion).

In primary aldosteronism a "square wave" type of abnormal response occurs, even in the absence of heart failure. The explanation for this is not certain; it may be due to an alteration in the autonomic nervous system and/or due to an increase in plasma volume.^{12,13,14} Surgical removal of the aldosteronoma normalizes the response to the Vm, as does preoperative potassium repletion.

When any portion of the cardiovascular reflex system controlling blood pressure and heart rate has been altered by disease, surgery or drugs, an abnormal response ("square wave" type) may occur, since a normal response depends upon intact reflexes.^{15,16} Examples of alterations that are found in clinical practice are diabetic neuropathy, calcification of the carotid sinus, surgical sympathectomy, and the administration of diverse drugs which alter autonomic nervous system activity (for example, atropine, reserpine, guanethidine, methyl dopa, norepinephrine, isoproterenol and amphetamine). Such an altered response will obscure an otherwise normal cardiovascular system as well as the presence of significant cardiovascular disease. The Vm under these circumstances loses much of its value. Similarly, when the cardiac rhythm is grossly irregular (as in atrial fibrillation), interpretation of an abnormal response to the Vm may not be valid, since the stroke output changes from beat to beat.

A third type of abnormal response to the Vm occurs in some patients with severe heart failure¹¹ and may be termed a "paradoxical" response (figure 7). In these patients the pulse pressure increases during the strain and the heart rate slows; in phase 4 (after the release of the strain) the diastolic pressure decreases and the heart rate increases. These patients are probably on (or near) the falling limb of Starling's curve, and they respond to a decreased filling pressure by an increase in stroke output and an increase in pulse pressure. Peripheral vasodilatation occurs during the strain, and during phase 4 a drop in diastolic blood pressure results.

The Uses of the Valsalva Maneuver in the Clinical Practice of Cardiovascular Diseases

An understanding of the circulatory changes that take place during and after the Vm provides a basis for the use of this test in clinical practice. In the differential diagnosis of dyspnea it will differentiate clearly (a) pulmonary emphysema without heart failure (abnormal response—"exaggerated normal response"), (b) heart failure,

tight left-sided valvular stenosis, constrictive pericarditis (abnormal "square wave" response), (c) severe heart failure (abnormal "paradoxical" response), and (d) obesity, pregnancy, malingering, anxiety (normal response). At the bedside the patients in (a) are likely to have an impalpable peripheral pulse during the strain and to have a slow return of the pulse to normal after the strain is released. Patients in (b) have little or no change in the cardiac rate or peripheral pulse volume during or after the strain. Patients in (c) have a slower pulse rate during the strain and a faster pulse rate after the strain is released. Patients in (d) have a weak, rapid pulse rate during the strain and a bounding, slow pulse rate after the strain is released.

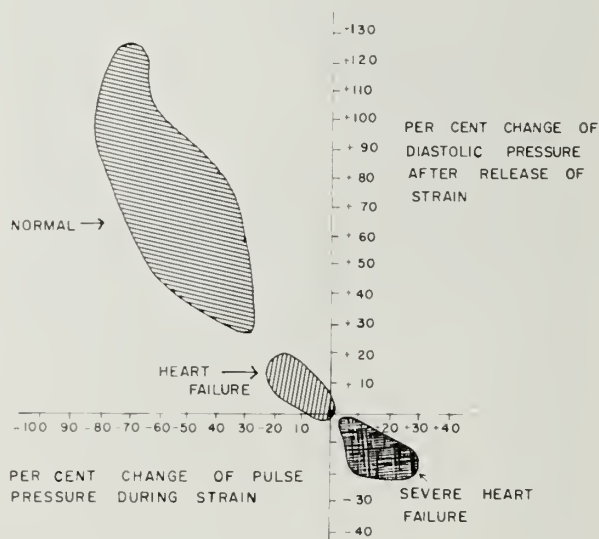


FIG. 7. Abnormal cardiovascular response to Valsalva maneuver (third type—occurs in patients with severe heart failure). Note in lower right hand portion of graph that direction of changes in pressures is the reverse of those recorded for normals and heart failure (upper left hand portion of graph). (Adapted from Sharpey-Schafer.¹¹)

In a patient with high blood pressure it is useful to separate those with essential hypertension from those with high blood pressure caused by specific etiologies. In patients with primary aldosteronism, the response is an abnormal "square wave" type, even in the absence of heart failure.^{12,13,14} In all other types of hypertension the response is normal, provided heart failure is not present.

The test is useful in evaluating the circulatory integrity of a postcardiac-infarction patient, of a patient with loud murmurs, of a patient recovering from heart failure, and of a patient susceptible to heart failure who is receiving intravenous physiologic saline solution or blood. It has been used

to assess the physical fitness of flyers and athletes.¹⁷

If the response to the Vm is normal in a patient who has cardiac murmurs, careful auscultation may help to localize the anatomic site of the murmur. In idiopathic hypertrophic muscular subaortic stenosis the ejection systolic murmur characteristic of this lesion may increase in intensity during the strain.¹⁸ The flow rate across the left ventricular outflow tract is reduced during the strain phase of the Vm. However, simultaneously there is a shrinkage in left ventricular size, and this latter factor tends to augment the obstruction to left ventricular emptying.¹⁹ It is the augmented obstruction which is believed to be the cause of the increase in intensity of the systolic murmur.

Again, provided the response to the Vm is normal, all cardiac murmurs (with the exception of the murmur of idiopathic hypertrophic muscular subaortic stenosis) decrease in intensity during the strain and increase in intensity immediately after the strain is released.²⁰ When the strain is released, the onrushing blood surges into the right side of the heart first; thus right-sided murmurs (pulmonic and tricuspid valve murmurs) increase in intensity early (2 or 3 cardiac beats after the strain is released). In contrast, left-sided murmurs (aortic and mitral valve murmurs, murmurs of ventricular septal defect and patent ductus arteriosus) increase in intensity later (5 or 6 cardiac beats after the strain is released).

The physician may employ the Vm to terminate a paroxysm of atrial or nodal tachycardia,²¹ or he may use it in conjunction with other measures, such as carotid-sinus massage, to treat such a paroxysm. The cardiovascular reflexes are activated by this maneuver. Carotid-sinus fibers are stretched by the sudden increase in blood pressure at the start of the strain, and vagal tone to the heart is enhanced. This results in an abrupt slowing of the heart rate.

Occasionally the Vm may be useful in relieving attacks of angina pectoris in selected patients who have chronic, stable coronary heart disease.²² It is well to remember, however, that the Vm has on occasion provoked an attack of angina pectoris,⁵ and thus it should be used with caution in patients with coronary heart disease.

It is beyond the scope of this paper to discuss the pathogenetic mechanisms which have been advanced to explain syncopal episodes that occur during or after hyperventilation, coughing, or micturition. The reader is referred to excellent reviews on these topics.²³⁻²⁸ However, the circulatory changes which occur during the Vm provide

at least one reasonable explanation for such syncopal attacks.

Finally, the circulatory response to the Vm occurring in patients with myxedema and large cardiac shadows indicates that heart failure does not occur in such patients.²⁹ If heart failure is present it must be due to some other cause, such as valvular or ischemic heart disease.

Use in the Diagnosis of Congenital Heart Diseases

The Vm may be useful in studying a patient who has congenital heart disease.³⁰⁻³³ The principles governing the circulatory response to this maneuver apply in the same way to patients suffering with congenital heart disease as they do to patients suffering with other forms of heart disease. Thus, congenital heart diseases severe enough to cause circulatory failure cause an abnormal response to the Vm (usually second type or "square wave" type). Similarly, congenital heart diseases which cause little additional work for the heart, as compared to the normal, have little adverse effect on the circulation; the response to the Vm in such a patient would be normal. However, a special situation exists in patients who have shunting of blood from one side of the heart to the other side.

In patients with an atrial septal defect the right ventricle bears an excessive volume load. Most patients with this type of defect never develop heart failure. When the defect is small and the volume of blood shunted is small, the response to the Vm is normal. However, patients with large defects associated with large shunts (but without heart failure) have an intermediate abnormal "square wave" response to the Vm.³³ In these patients the right ventricle is distended maximally under basal conditions with blood passing to it from the systemic veins and from the left atrium; yet the right ventricular filling pressure is normal, and thus one cannot explain this intermediate response in terms of the Starling curve of ventricular function. The suggested explanation is that the excessive right-heart and pulmonary blood volume provide a reservoir of blood which is squeezed out of the left heart during the strain and offsets partially the decrease in cardiac output which occurs normally during this portion of the Vm. It must be true also that the left-to-right atrial shunt increases during this phase as the result of the decrease in inflow of blood to the right atrium which always accompanies the strain. The former factor tends to maintain a normal cardiac output during the strain, and the latter factor tends to reduce the cardiac output during the

strain. It is the interplay of these 2 factors which likely causes the intermediate response. Similarly, with the release of the strain the left-to-right atrial shunt decreases transiently as blood surges into the right atrium from the systemic veins.

The pulmonary reservoir of blood is replenished, and the cardiac output returns to normal. The usual "bolus" of blood which passes through the heart to cause the reflex bradycardia of phase 4 is split by the recirculation of the blood through the septal defect; thus, there is little phase 4 elevation of blood pressure and little or no reflex bradycardia.

Little data are published on the Vm response in a patient with a ventricular septal defect or a patent ductus arteriosus.^{30, 31, 32} In the absence of heart failure the response is likely to be normal or of an intermediate abnormal type. The mechanism is probably similar to that of an atrial septal defect; that is, the abnormally large pulmonary blood reservoir allows only a modest reduction in systemic cardiac output during the strain despite the diminished systemic return to the right heart. During phase 4 the "bolus" of blood passing through the heart is split at the septal defect preventing the "overshoot" of blood pressure in this phase and thus preventing the reflex bradycardia.

In any type of septal defect, when pulmonary blood pressure is at systemic level (Eisenmenger's syndrome), an abnormal "square wave" response would be expected in cases with ventricular failure. In the remainder the response would be normal.

In tetralogy of Fallot the response to the Vm is normal,^{30, 31, 32} and in tricuspid atresia a "square wave" response may occur due to failure of the left ventricle.³¹

Use of Thoracic Radiology

Normally the transverse diameter of the heart on the posteroanterior chest X-ray film decreases by 15 to 30 per cent after 5 seconds of the strain; the great vessels also decrease in size.³⁴ Therefore, the Vm may be useful in differentiating large hilar vessels from hilar adenopathy. Similarly, small left-to-right shunts, simple mitral valve disease, and pulmonary emphysema show normal changes in the heart and great vessels during the strain. By way of contrast, large left-to-right shunts, pulmonary valvular stenosis, and severe pulmonary hypertension due to any cause show little or no change in the pulmonary vasculature, and the heart size remains unchanged.

In a patient who has mitral stenosis, marked dilatation of the left atrial appendage may occur

2 to 4 seconds after the strain is released (phase 4) and may be observed at chest fluoroscopy or in the X-ray film as a bulging of the left side of the heart.³⁵ This sign may be valuable in helping to confirm a diagnosis of mitral stenosis.

Summary

The Valsalva maneuver was described over 260 years ago by Valsalva but was popularized about 100 years ago by Weber. It may be employed usefully in many branches of medicine and often helps in diagnosis and in deciding therapy. An understanding of the pathophysiologic changes induced by the maneuver will enable the physician to use it more intelligently. It is simple and safe and may be used on most patients at the bedside or in the physician's office. A normal cardiovascular response is seen in patients with obesity, pregnancy, malingering, anxiety, hypertension (without heart failure), and in heart disease (without heart failure). An abnormal cardiovascular response occurs in 3 types: The first type occurs in patients with pulmonary emphysema; the second type occurs in patients with heart failure, pericardial constriction, tight left-sided valvular stenosis, primary aldosteronism and autonomic nervous system alteration; a modified form occurs in patients with atrial septal defect. The third type occurs in patients with severe heart failure.

I desire to record my thanks to Drs. T. S. Claiborne, J. W. Hurst and R. C. Schlant, of Atlanta, Georgia, and to Dr. R. O. Russell, of Birmingham, Alabama, for their review of the manuscript and helpful criticisms.

References

1. DAWSON, P. M.: *Bull. Hist. Med.*, 1943, 14, 295.
2. DERKES, V. J., AND KERR, A., JR.: *New Eng. J. Med.*, 1955, 253, 822.
3. RUSHMER, R. F.: *Cardiovascular Dynamics*. Philadelphia: Saunders, 1961, Chaps. 4, 6.
4. HAMILTON, W. F., WOODBURY, R. A., AND HARPER, H. T., JR.: *J.A.M.A.*, 1936, 107, 853.
5. GORLIN, R., KNOWLES, J. H., AND STOREY, C. F.: *Amer. J. Med.*, 1957, 22, 197.
6. BOOTH, R. W., AND OTHERS: *J. Lab. Clin. Med.*, 1962, 59, 275.
7. KNOWLES, J. H., GORLIN, R., AND STOREY, C. F.: *J.A.M.A.*, 1956, 160, 44.
8. ELISBERG, E. I.: *Ibid.*, 1963, 186, 200.
9. MILLS, H., AND KATTUS, A. A., JR.: *Circulation*, 1958, 17, 65.
10. IRVIN, C. W., JR.: *J.A.M.A.*, 1959, 170, 787.
11. SHARPEY-SCHAFER, E. P.: *Brit. Med. J.*, 1955, 1, 693.
12. BIGLIERI, E. G., AND MCILROY, M. B.: *Circulation*, 1966, 33, 78.

(Continued on page 24)

Jaundice in Rocky Mountain Spotted Fever*

Report of a Case

LT. EDWARD T. GROSSMAN, MC, USNR† AND CDR. N. A. JANOVSKI, M.C. USNR‡

ICTERUS is not generally considered to be a prominent feature of Rocky Mountain spotted fever. Harrell¹ in his review of Rocky Mountain spotted fever commented that although jaundice may occasionally be seen it is not marked except in fatal cases. Observations of the occasional occurrence of jaundice during the acute phase of illness have been recorded in other case reports and reviews.²⁻⁶ We have been unable to find in the literature any references to patients with marked jaundice as one of its first signs. The case of Rocky Mountain spotted fever herewith reported is one in which jaundice was evident prior to the appearance of the rash.

Report of Case

A 33-year-old Negro maintenance man was admitted to the U. S. Naval Hospital, Beaufort, South Carolina, on August 9, 1965 with the complaints of fever, malaise, diarrhea, and jaundice. He had been well until August 4, 1965 when he developed fever. He went to his physician 3 days later and was given 600,000 units of procaine penicillin intramuscularly. The only other medication that the patient had been taking was aspirin. Scleral icterus was apparent on the day of admission. He had noted the onset of clay-colored stools and dark urine on the previous day. He denied excessive alcohol ingestion and gave no history of prior jaundice or hepatic disease, symptoms of gallbladder disease, or contact with icteric persons. He denied tick bites. His drinking water came from an open well.

Physical examination revealed an anxious, coöperative, icteric Negro. The temperature was 103.6°F, the pulse rate 114 per minute, the respiratory rate 28 per minute, and the blood pressure 112/82 mm. Hg. There were a few small nontender anterior cervical lymph nodes but no other significant lymphadenopathy. Examination of eyes, ears, nose and throat was unremarkable except for scleral icterus. The heart and lungs were normal. Abdominal examination revealed tenderness to palpation in the right upper quadrant, but the

liver was not enlarged. There was no splenomegaly. The rest of the examination was normal, and a skin rash was not present.

The patient initially was treated symptomatically for his spiking fever which ranged from 102° to 105°F during the first week of hospitalization. He manifested intermittent nuchal rigidity, mild headache, and mental confusion during this period. On August 16, 12 days after the onset of illness, a nonpruritic erythematous macular rash was observed on the extremities as well as on the palms and the arches. The rash gradually became maculopapular and extended to the trunk in the next 2 to 3 days. No petechial lesions were seen. The rash then faded during the next week. Tetracycline in doses of 3 Gm. per day was started when the rash was first seen. The temperature rapidly declined and the patient became completely afebrile 6 days later. Diarrhea which had been present since admission halted soon after drug administration. The jaundice was noted to diminish clinically even before tetracycline was begun. The hematocrit which had decreased to 22 per cent rapidly rose after drug therapy. Hepatosplenomegaly was never noted. The clinical improvement persisted, and he was discharged 5 weeks after admission.

The initial white blood cell count was 9,500, with 56 per cent neutrophils, 26 per cent bands, 13 per cent lymphocytes, and 5 per cent monocytes. The hematocrit was 32 per cent and the hemoglobin 10.5 Gm. per cent. Initial urinalysis revealed a dark urine with a specific gravity of 1.027, 100 mg. per cent albumen, 15 to 20 white blood cells, and 8 to 10 red blood cells, and tests for bile and urobilinogen were strongly positive. Initial total serum bilirubin was 6.85 mg. per 100 ml. with direct serum bilirubin 5.25 mg. per 100 ml. Cephalin flocculation was 1+, and the thymol turbidity was 3.5 units. The alkaline phosphatase was 0.6 Bessey-Lowry units. The SGOT and SGPT were 110 and 150 units respectively. The total serum protein on September 6, 1965 was 7.9 Gm. per cent (albumen 4.4 Gm. per cent). The Quick "1-stage" prothrombin time was 15 seconds.

A platelet count of 180,000, a bleeding time of 4½ min., and a Lee-White clotting time of 12½ min. were found on September 13. Tests for sickle cells and Coombs' antibodies were negative. The results of hematologic and liver function studies are shown in table 1. *B. streptococcus*, not group A, was cultured from the throat. Numerous blood, urine and stool cultures were negative. Ova and parasites were not found in the stool. *Leptospira* were not seen in the urine with dark field microscopy. The blood urea nitrogen was 15 mg. per

* The opinions expressed herein are those of the authors and do not necessarily represent those of the Navy Department of the Department of Defense.

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TABLE 1: Hematological and Liver Function Studies

Date	Day of Illness	Cephalin Flocculation	Thymol Turbidity Units	SGOT/SGPT Units	Bilirubin Total/Direct Mg. Per cent	Alkaline Phosphatase Bessey-Lowry Units	WBC Mm. ³	Hemoglobin Gm. Per cent	Hematocrit Per cent	Reticulocytes Per cent
8/10	6	1+	3.5	110/150	6.85/5.25	0.6	9,500	10.5	32	
8/13	9			32/13	3.4/1.9		23,400	9.0	28	3.3
8/16	12			18/15	1.2/0.7	4.4	11,600	7.6	23	2.4
8/18	14						9,000	7.2	22	3.2
8/23	19	2+	10		0.7/0.5	4.3	9,600	9.0	26	11.2
8/30	26	2+	11			1.3	5,400	11.0	34	2.8
9/13	40		12				4,800	13.5	41	0.4

cent. Chest and skull X-ray films were normal. An oral cholecystogram on September 17 was interpreted as normal.

The VDRL, heterophile, and leptospiriosis microscopic agglutination tests were negative, as were agglutination tests for typhoid, paratyphoid A and B, and Brucella infections. Weil-Felix tests showed that sera collected on the twelfth and nineteenth day after the onset both titered 1:320 with the Proteus OX-2 antigen but were negative with the Proteus OX-19 and OX-K antigens. Complement-fixation tests with a group-specific spotted fever antigen and sera obtained on the seventh, twelfth and nineteenth days were positive, and the antibody titers of these specimens were 1:320, 1:1,280 and 1:1,280 respectively.

A skin biopsy of the rash done on August 20 revealed a vasculitis (figure 1). No rickettsial organisms were

found. A Vim-Silverman needle liver biopsy was performed on September 17. Fatty metamorphosis was the prominent morphologic change (figure 2).

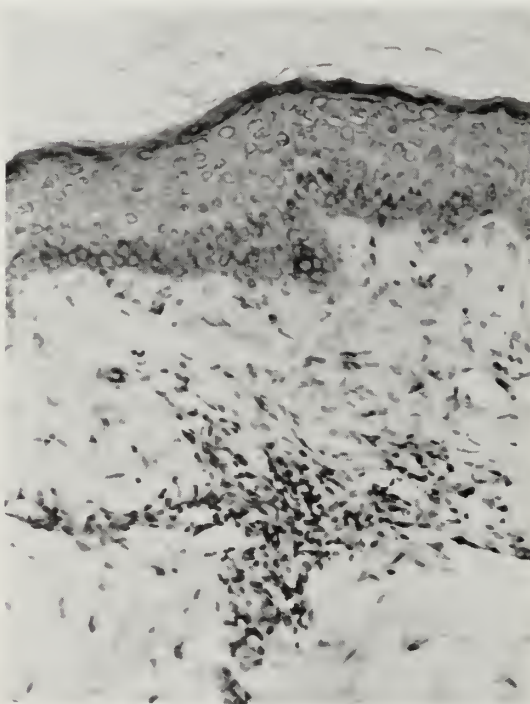


FIG. 1. Moderate perivascular infiltration of vessels of upper corium with mononuclear cells, and marked proliferative tendency of endothelial cells, which are large, pale and swollen, almost obliterating the vascular lumen.

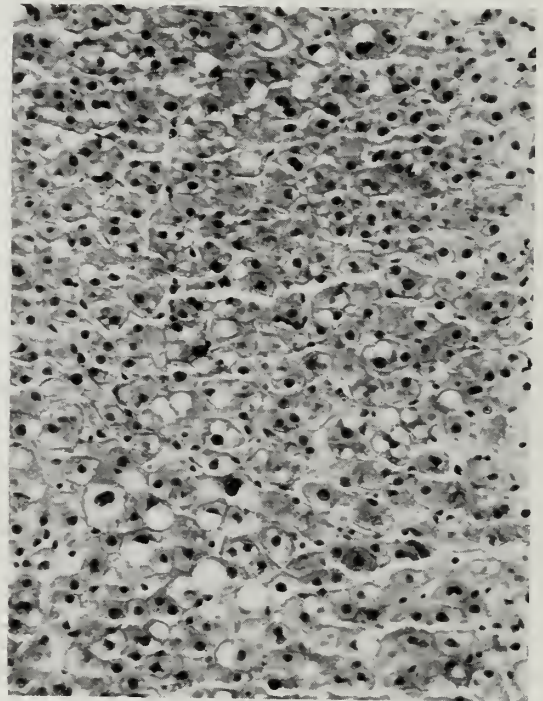


Fig. 2. Extensive fatty metamorphosis of individual hepatic cells, with accumulation of fine granular lipochrome pigment in cytoplasm, and frequent presence of binucleated hepatic cells and cells with large hyperchromatic nuclei. Occasional Kupfer's cells contain bile pigment.

Discussion

Wohlbach⁷ described diffuse monocytic infiltration and small areas of necrosis in the liver along with considerable damage to the endothelial cells of the liver sinusoids in patients with Rocky Mountain spotted fever. Lillie³ reported that one-third of the cases of Rocky Mountain spotted fever examined postmortem revealed distinct cloudiness, swelling, and opacity of the liver parenchyma. One-half of his cases showed periportal lymphocytic infiltration.

The accumulation of fine fat droplets in the hepatic cells of both the central and periportal areas has been described in several reports.^{1, 3, 8} No gallbladder abnormalities have been reported associated with Rocky Mountain spotted fever.

Several reviews have noted a transient impairment of liver function during the acute phase of the disease with a return to normal generally occurring during convalescence.^{1, 2} In Harrell's study¹ of serial liver function tests in 16 patients with Rocky Mountain spotted fever the serum bilirubin was elevated in only 1 case. Marked icterus has been associated with an obstruction of the common bile duct due to swelling of the head of the pancreas.³ In general, marked icterus has only been seen with the very severe cases.¹ Trigg⁵ reported a total serum bilirubin of 4.74 mg. per 100 ml. in his case of Rocky Mountain spotted fever associated with hypofibrinogenemia.

In a generalized rickettsial endangiitis such as is present in Rocky Mountain spotted fever it is not surprising to find hepatic derangement. Recent literature has also noted the frequent occurrence of hepatic involvement in another rickettsial disease, namely Q fever.^{9,10}

The case under discussion is unusual in several aspects which deserve some clarification and comments.

It is well known that complement-fixing antibodies usually do not appear before the second week¹¹ and generally range in titer from 1:20 to 1:80 when first detected. In this case a 1:320 titer of complement-fixing antibodies was found on the seventh day of the disease. The 4-fold increase in titer to 1:1,280 demonstrated on the twelfth-day specimen is diagnostic of Rocky Mountain spotted fever.

The rash developed approximately 12 days after the onset of clinical symptoms. Classically the rash usually appears on the second to fourth day of the disease but may be delayed until the fifth or sixth day.¹¹ Although the petechial character of the rash was not clinically present, the histopathologic examination of the skin is compatible with the morphologic picture expected in the rash of Rocky Mountain spotted fever.

Jaundice was noted on the fourth day of illness or 7 days prior to the appearance of the rash. We are unable to fully explain the early occurrence of the icterus. The liver biopsy performed about 6 weeks after the onset of the disease revealed changes compatible with Rocky Mountain spotted fever with no evidence of necrosis or obstruction. An oral cholecystogram done at the same time showed no evidence of extrahepatic obstruction.

Liver function studies presented evidence of only mild hepatocellular damage which could perhaps explain the elevated bilirubin. It is certainly conceivable, as in Lillie's case,³ that transient extrahepatic obstruction perhaps secondary to pancreatic swelling around the common bile duct caused the jaundice. However, an elevated initial alkaline phosphatase would have been expected.

A Coombs' negative hemolytic anemia may have contributed to the icterus. It is not unusual for a normochromic normocytic anemia to occur in far-advanced Rocky Mountain spotted fever. Harrell¹ attributed this to the debilitating effect of the disease and noted that studies for the demonstration of hemolysis have been negative. Specific parasitization of the erythrocytes has not been demonstrated. The finding of a rapidly progressive anemia with reticulocytosis, in the absence of an obvious bleeding site, is suggestive of a hemolytic anemia in this patient. However, the initial bilirubin elevation was mostly direct and not indirect as would be expected if rapid hemolysis were causing the jaundice.

The question arises of the possible contribution of some other disease to the clinical picture of early overt jaundice in Rocky Mountain spotted fever. Cirrhosis, leptospirosis, and mononucleosis have been eliminated by laboratory methods. Exposure to hepatotoxic agents, serum hepatitis, and coexisting gallbladder disease were also ruled out. Infectious hepatitis is possible, but one would not expect that the liver biopsy would show complete *restitutio ad integrum* in this short period of time.

It thus seems likely that hepatocellular damage and hemolysis of infectious origin contributed to the early appearance of marked jaundice in this case.

Summary

A laboratory documented case of Rocky Mountain spotted fever with jaundice as one of the initial signs has been presented. Unusual aspects included the appearance of the rash on the twelfth day of illness and the probability of a hemolytic anemia. A liver biopsy done on the forty-fourth day of the illness revealed fatty metamorphosis and morphologic evidence of cellular regeneration.

The jaundice is attributed to hemolysis and hepatocellular damage, both of infectious origin.

We thankfully acknowledge Dr. Bennett L. Elisberg, Chief, Department of Rickettsial Disease, Walter Reed Army Institute of Research, Washington, D. C., for his serodiagnostic studies, constructive suggestions, and criticisms given to us in the follow-up of this patient and preparation of this manuscript.

References

1. HARRELL, G. T., JR.: *Medicine* (Balt.), 1949, 28, 333.
2. BAKER, G. E.: *Med. Clin. N. Amer.*, 1951, 35, 907.
3. LILLIE, B.: *The Pathology of Rocky Mountain Spotted Fever*. Nat. Inst. Health Bull. No. 177. Washington, D. C.: U. S. Government Printing Office, 1941.
4. SMADEL, J. E.: Rocky Mountain spotted fever, in Cecil, R., and Loeb, R.: *A Textbook of Medicine*, 10th ed. Philadelphia: Saunders, 1958, pp. 97-103.
5. TRIGG, J. W., JR.: *New Eng. J. Med.*, 1964, 270, 1042.
6. WOODWARD, T. E.: *Med. Clin. N. Amer.*, 1959, 43, 1507.
7. WOHLBACH, S. B.: *J. Med. Res.*, 1919, 41, 1.
8. PINCOFFS, M. C., AND SHAW, C. C.: *Med. Clin. N. Amer.*, 1933, 16, 1097.
9. ALKAN, W. J., EVENCHIK, Z., AND ESHCHAR, J.: *Amer. J. Med.*, 1965, 38, 54.
10. BERNSTEIN, M., EDMUNDSON, H., AND BARBOUR, B.: *Arch. Intern. Med.* (Chicago), 1965, 116, 491.
11. COX, H. R.: *The Spotted fever group*, in Rivers, T. M.: *Viral and Rickettsial Diseases of Man*, 3rd ed. Philadelphia: Lippincott, 1959, pp. 828-847.

Oral Contraceptives—Nelson

(Continued from page 11)

References

1. HAMBLIN, E. C., HIRST, D. V., AND CUYLER, W. K.: Effects of estrogenic therapy upon ovarian function when employed during normal menstrual cycles. *Amer. J. Obstet. Gynec.*, 1943, 45, 268.
2. PINCUS, G., AND OTHERS: Fertility control with oral medication. *Ibid.*, 1958, 75, 1333.
3. AMA Committee on Human Reproduction: *The Control of fertility*. J.A.M.A., 1965, 194, 462.
4. KOTZ, H. L., AND DODEK, O. I., JR.: The Oral contraceptives and infertility. *Med. Ann. D. C.*, 1966, 35, 255.
5. TOWNSEND, C. E.: "The Pill"—a practical progressive program for planned parenthood. *Amer. J. Obstet. Gynec.*, 1963, 87, 130.
6. GUTTMACHER, A. F., AND PERKEN, G. W.: News release. Planned Parenthood—World Population, April 2, 1965.

Intrauterine Device—Wilson

(Continued from page 13)

had inserted some 500 Loops. The Loop comes in 4 sizes and thus far I have limited its use to the next to largest, or type C, with an occasional insertion of the smallest, or type A. Thus far only 3 pregnancies have occurred with the Loop in place. These patients are undelivered at the present.

The incidence of side-effects has been much lower with the Loop, and any patient having problems with the Spiral is given a Loop, usually with better tolerance. Bleeding and discharge are less troublesome, but bleeding is still cause for removal in an appreciable number of patients. To my knowledge, no patients have developed salpingitis, ectopic pregnancy, or perforation of the uterus with the use of the Loop.

Two patients had the threads shortened to the external os because of penile discomfort suffered

by the husbands on sexual contact. In both cases results were good, and it is interesting to note that neither of the husbands had been circumcised. None of the patients using the Loop has requested removal because of decreased sexual response.

My experience thus far indicates that the Loop is somewhat superior to the Spiral. These intra-uterine devices, while admittedly not perfect, assure any woman who can retain the device of being reasonably certain of not becoming pregnant. With the exception of the contraceptive "pill," they have been superior to all of the methods formerly used, and we can expect continued improvement in the design, better patient acceptability, and a lower incidence of side-effects.

Valsalva Maneuver in Cardiovascular Diseases—Upshaw

(Continued from page 20)

13. SLATON, P. E., AND BIGLIERI, E. G.: *Amer. J. Med.*, 1965, 38, 324.
14. ROSS, E. J.: *Ibid.*, 1965, 39, 994.
15. ELISBERG, E. I., MILLER, G., WEINBERG, S. L., AND KATZ, L. N.: *Amer. Heart J.*, 1953, 45, 227.
16. MCINTOSH, H. D., BURNAM, J. F., HICKAM, J. B., AND WARREN, J. V.: *Circulation*, 1954, 9, 511.
17. FLACK, M., AND BURTON, H. L., in *Proc. Physiological Society*, July 8, 1922. *J. Physiol. (London)*, 1922, 56, 1.
18. ROSENBLUM, R., AND DELMAN, A. J.: *Amer. J. Cardiol.*, 1965, 15, 868.
19. BRAUNWALD, E., AND OTHERS: *Circulation*, 1964, 29, 422.
20. ZINSSER, H. F., JR., AND KAY, C. F.: *Ibid.*, 1950, 1, 523.
21. HURST, J. W., AND LOGUE, R. B.: *The Heart*. New York: McGraw (Blakiston Div.), 1966, p. 297.
22. LEVINE, H. J., MCINTYRE, K. M., AND GLOVSKY, M. M.: *New Eng. J. Med.*, 1966, 275, 487.
23. HOWARD, P., LEATHART, G. L., DORNHORST, A. C., AND SHARPEY-SCHAFER, E. P.: *Brit. Med. J.*, 1951, 2, 382.
24. KLEIN, L. J., SALTZMAN, H. A., HEYMAN, A., AND SIEKER, H. O.: *Amer. J. Med.*, 1964, 37, 263.
25. SHARPEY-SCHAFER, E. P.: *Brit. Med. J.*, 1953, 2, 860.
26. MCINTOSH, H. D., ESTES, E. H., AND WARREN, J. V.: *Amer. Heart J.*, 1956, 52, 70.
27. PROZAN, G. B., AND LITWIN, A.: *Ann. Intern. Med.*, 1961, 54, 82.
28. LYLE, C. B., MONROE, J. T., JR., FLINN, D. E., AND LAMB, L. E.: *New Eng. J. Med.*, 1961, 265, 982.
29. MCBRIEN, D. J., AND HINDLE, W.: *Lancet*, 1963, 1, 1066.
30. ELISBERG, E. I., SINGIAN, E., MILLER, G., AND KATZ, L. N.: *Circulation*, 1953, 7, 880.
31. MCILROY, M. B.: *Brit. Heart J.*, 1959, 21, 293.
32. LANDRIGAN, P. L., AND CUDKOWICZ, L.: *Amer. Heart J.*, 1962, 64, 187.
33. HANCOCK, E. W., OLIVER, G. C., SWANSON, M. J., AND HULTGREN, H. N.: *Ibid.*, 1963, 65, 50.
34. WHITLEY, J. E., AND MARTIN, J. F.: *Amer. J. Roentgen.*, 1964, 91, 297.
35. JACOBSON, G., AND WEIDNER, W.: *Radiology*, 1962, 79, 274.

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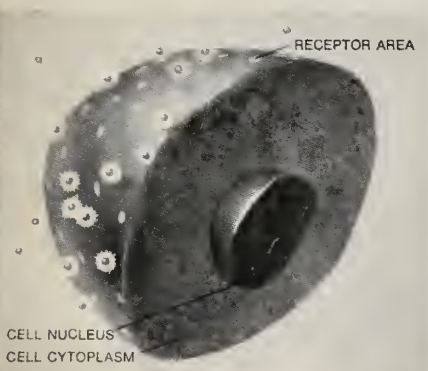
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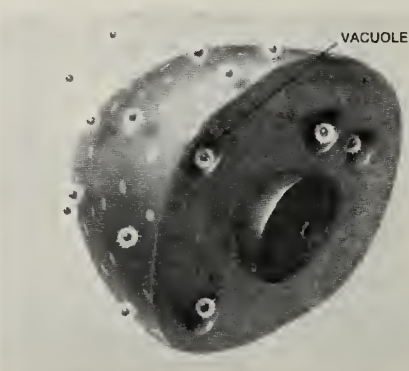
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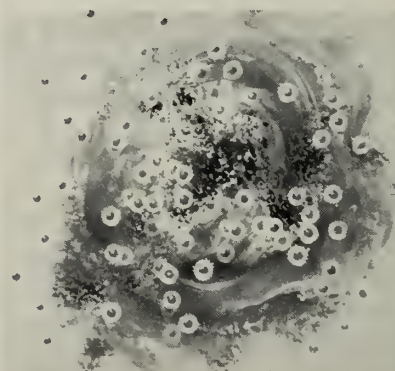
How the influenza virus invades and destroys the untreated cell



1 Viruses outside the cell attach themselves to specific cell receptor areas

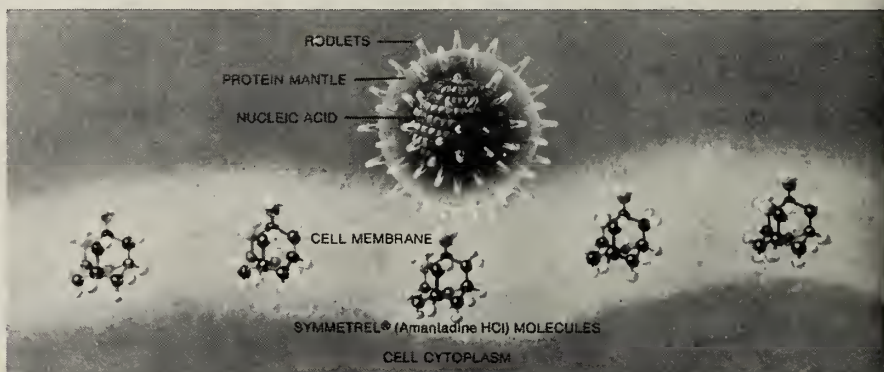
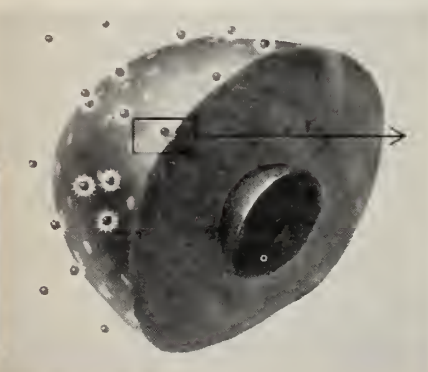


2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

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1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Half, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).

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Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A₂ in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A₂. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

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Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

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in • gastroenteritis • acute infections



LOMOTIL[®]

Each tablet and each 5 cc. of liquid contains:

diphenoxylate hydrochloride 2.5 mg.

(Warning: May be habit forming)

atropine sulfate 0.025 mg.

Effectiveness: Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- Ulcerative colitis
- Acute infections
- Irritable bowel
- Regional enteritis
- Drug therapy
- Food Poisoning
- Functional hypermotility
- Malabsorption syndrome
- Ileostomy
- Gastroenteritis and colitis

Dosage: For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg. 	½ tsp. 3 times daily
6-12 months	4 mg. 	½ tsp. 4 times daily
1-2 years . . .	5 mg. 	½ tsp. 5 times daily
2-5 years . . .	6 mg. 	1 tsp. 3 times daily
5-8 years . . .	8 mg. 	1 tsp. 4 times daily
8-12 years	10 mg. 	1 tsp. 5 times daily

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

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Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; **Tablets:** film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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- quickly relieves congested nose
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- side effects are minimal

INDICATION: Nasal congestion. **CONTRAINDICATION:** Do not use in patients sensitive to small doses of sympathomimetic substances. **WARNINGS:** Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. **CAUTION:** Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. **DOSAGE: Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. **SUPPLIED:** OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*

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C I B A



PRESIDENT'S PAGE

COMMITTEE STRUCTURE

IT IS TRADITIONAL to devote the first "President's Page" in the MEDICAL ANNALS following the inauguration of a new administration to a discussion of the committees concerned with directing the activities and discharging the obligations of the Medical Society to the profession and to the community. Stimulated not by tradition but by my conviction that the membership should be reminded annually of what its Society is and what it does, I direct your attention again to this matter. There are over 400 members serving on more than 40 committees dedicated to a variety of activities aimed toward more efficient application of manpower and brainpower for the benefit of the general health and welfare.

As in previous years, effort has been made to staff committees with physicians who are qualified in a particular sphere. In order to obtain maximum efficiency, in some instances members may not have been assigned to the committee of their first choice, and in others members have been "drafted" because of their background or experience. It is hoped that the result of these assignments will not create dissatisfaction among those so placed. I suspect that many members have an inadequate appreciation of the wide variety of services rendered the Society and the community by their organization. Your attention is called to the list of committees and their composition published elsewhere in the ANNALS.

The mores and law of current times demand intense and deliberate consideration of the role of organized medicine in delivery of medical care to the public. Several committees of your Society are actively engaged in dealing with these problems. They are effectively helping to shape and implement Medicare, Medicaid, and the Regional Medical Programs (Heart, Stroke and Cancer). Intelligent understanding and participation by every member of the profession are essential to preserve adequate standards and quality of medical care. I urge that all physicians make a determined effort to acquaint themselves with these matters and to strive to maintain the superiority of American medicine.

Kenny D. Eckert



HENRY DUNLOP ECKER, M.D.

President, The Medical Society of the District of Columbia, 1967



EDITORIALS

Henry Dunlop Ecker, M.D.

DR. HENRY DUNLOP ECKER has the distinction of being the 100th President in the 150th year of the founding of the Medical Society of the District of Columbia. It is thus quite fitting that he is a sixth generation Washingtonian and a descendant of Robert Peter, first Mayor of Georgetown. He was born, January 6, 1914 to John Beard Ecker and Grace Dunlop Ecker. His mother is living and is the author of "A Portrait of Old Georgetown," published in 1935.

Dr. Ecker is a graduate of Woodberry Forest School, a preparatory school, and the University of Virginia. He holds 2 degrees from the latter, Bachelor of Science (1936) and Doctor of Medicine (1940). He interned for 2 years at the Columbia-Presbyterian Hospital in New York. In 1942 he was commissioned a medical officer with the U. S. Public Health Service, and was discharged with the rank of Lt. Commander in 1946. During his tour of duty he spent almost 3 years at the U. S. Marine Hospital in New Orleans.

Certified by the American Board of Internal Medicine, Dr. Ecker limits his practice to internal medicine. He is Associate Clinical Professor of Medicine at George Washington University School of Medicine, having served on the faculty since 1946. At the Washington Hospital Center he was Vice Chairman of the Department of Medicine in 1959-60 and is now a member of its Board of Trustees.

He is well known in the medical community. He serves presently on the Medical Advisory Board of Planned Parenthood of Metropolitan Washington, Medical Advisory Committee to the Visiting

Nurse Association, and the University of Virginia Medical Alumni Advisory Committee. For many years he was a member of the Board of Trustees of Medical Service of D. C. and the Board of Directors of the Washington Heart Association. He has authored a number of articles in the medical literature.

A founding member of the District of Columbia Society of Internal Medicine, he was also its first President, from 1956 to 1958. He is a member of the American Medical Association, a Fellow of the American College of Physicians, a member of the American Society of Internal Medicine, the American Heart Association, the Washington Heart Association, and the American Federation for Clinical Research. He is a member of Alpha Omega Alpha fraternity and the Cosmos Club.

His wife is the former Margaret Mehring, of Charlottesville, Va. They have 3 children, George Thomas Dunlop, Lewis Charles II, and Charlotte Martin, all residing in Washington. Mrs. Ecker is Vice President of Planned Parenthood of Metropolitan Washington and is active in the Women's Auxiliary of the Washington Hospital Center.

Active in various sports during his preparatory school and college days, he still enjoys dancing, square dancing, and swimming, and he can be seen often at the Chevy Chase Club indulging in his favorite sports of tennis and paddle tennis.

Dr. Ecker has laid the groundwork for an active and exciting year by acquainting himself thoroughly with all facets of the Medical Society organization during his year as President-elect.

100 Years of Dental Progress in the Nation's Capital

ON NOVEMBER 23, 1866, 6 men gathered to found the Washington City Dental Society. The original organization had as its purposes "the advancement of the dental profession, and the promotion of social intercourse and kindly feeling among its members."

The following resolution was passed by the Society in January 1868:

"RESOLVED, That at each and every meeting it shall be the duty of every member to report for mutual benefit and warning the names of all patients for whom we have operated and who in our opinion intended to defraud us of our hard earnings and also of those who give us unnecessary trouble in collecting bills."

In May 1892 a circular was sent to members of the Society quoting the Constitution:

"The Annual dues are Three Dollars payable in monthly installments of 25 cents. Any member who neglects for one year to pay his monthly installments shall at the expiration of thirty days from the date of his being notified of his indebtedness, said installment being still unpaid, cease to be a member without further action of the Society.

"It is hoped that you will not longer neglect this matter but by your presence and contributions seek to advance the work and interests of the Society."

These excerpts from Dr. Willard Camalier's book give you some idea of the charm and wisdom that can be gleaned from a superficial stroll through the pages. An exploration in depth reveals the history of the local dental schools, the struggle for status within the Armed Forces, the impact of socioeconomic changes on the practice of dentistry, prepayment plans, the growth of the American Dental Association, and a history of its conventions in the Capital City.

While the latter, with numerous pictures, photostated documents, circulars, and other memorabilia are most important, I am drawn to the individual philosophies of those who have gone

before. In March 1899 Dr. J. Hall Lewis spoke to the Society, entitling his paper, "Take It Easy." "No other profession," he said, "entails such physically and mentally exhausting work as the practice of dentistry. The physician goes from house to house and the character of his cases is constantly changing. The lawyer also has an endless variety of cases and points of law presenting for his consideration. The minister likewise has diversity, fresh air and change of occupation. Of all professional men, the dentist most surely needs change, diversity, and amusement on account of the monotonous and brain-fatiguing character of his work." He concluded, "Take life easy or your life will be easy to take."

In a rather radical step the Society on February 16, 1909 approved a fee schedule for all its members to follow, with the provision, however, that variations could be made between the dentist and the patient in extraordinary cases.

On March 18, 1919, the Society vigorously opposed the practice of the Navy Department in asking for bids on dental care.

On June 18, 1920, it was called to the attention of the Society that whiskey and brandy had been stricken from the United States Pharmacopoeia at the insistence of Dr. Harvey Wiley of the Food and Drug Administration. The Society passed a motion to have them restored, and this was accomplished on January 22, 1924. At the June meeting a member requested that dentists be permitted to have some liquor in their offices for medicinal purposes. This was eventually accomplished by an appeal to the Internal Revenue Service.

In 1932 the Society offered its assistance to the Bonus Marchers who had come to Washington seeking jobs and better living conditions. Many members rendered services for the relief of pain to these individuals.

If all history is prologue, we stand to profit immeasurably from this record and the experiences of those men who did so much for dentistry. Perhaps we can benefit most from the example set by the author, Willard Camalier, who, after serving as President of the District of Columbia Dental Society, and ultimately as President of the entire American Dental Association, has seen fit, at 79 years of age, to make yet another and probably the most enduring contribution to his profession: "100 Years of Dental Progress in the Nation's Capital."

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In Defense of Autobiography*

AS HERETOFORE, this Annual Review [1958] is, first, for the record of specific details; second, for any interest our relatives and friends may find in reading all or parts of it. Our 1951 year was the first we tried "to review"; there is a Review for each year since.

Why an annual review? My experience in this genealogy hobby in trying to find facts of grandparents and great-grandparents impresses me with the value of such a review as this, distributed in multiple copies among relatives and friends, to ensure against total loss from discarding, aging, or burning of records, which might furnish a key to character or ideals.

I prefer autobiographies, for one always knows more about oneself than anyone else can. It is very common for children to leave home before they are out of their teens, for education, or work, or marriage, before mature judgments are established, and they often scatter and settle down far from home. Next in value to an autobiography is the story of a husband told by his wife, or the story of a wife told by her husband.

Diaries, family Bibles with vital records of a family, old letters, and other documents of historical value are quickly discarded by a scattering family, or on the death of a possible guardian of such treasures, and seldom does one become interested in such treasures till more mature years.

How quickly memory of one's ancestors fades when not refreshed by written documents. We often spend hundreds of dollars for a marble or granite monument in the cemetery with name and dates of birth and death carved thereon, and maybe some religious or philosophic sentiment. Ere long this is all the offspring can recall of them. What a pity! And many of these stone monuments erode till they are unreadable. And many heads of great and worthy families are buried without any markers, though at times someone in the family remembers the fact and where.

* EDITOR'S NOTE: This posthumous contribution was written by Dr. G. J. P. Barger in 1958 as a preface to his Annual Review. He died recently, November 25, 1966, and his obituary, written by his son, appears on page 75. In this preface he makes a plea for people to record data which may someday be of historic interest, if not to the public, to their own descendants. Undoubtedly, many of our members have unique life stories which should not be left unrecorded.

I feel sorry for children who have little or no memory of grandparents, much less of great-grandparents, and for the grandparents and great-grandparents who have no written documents covering the 60, 70, 80, or 90 years of activity, not of mere existence, which they lived, perhaps in educational fields, or public service, or religious fields, or in community life, contributing service for which one's family might well be proud of them.

I have no great buildings as monuments of my efforts, nor paintings, no great bridges built, nor public offices filled. And I want no stone pillar to mark my last resting place, only the ashes of cremation scattered to the winds of heaven. This self-told story will be my monument—a story of average achievements, full of meaning to me, perhaps of some interest to others—a story such as anyone might tell. This practice I cordially commend to others for its personal satisfactions, if nothing more.

Physicians Urged to Attend Cancer Study Meetings

INTERESTING CASE REVIEW MEETINGS on cancer of the sigmoid colon and rectum are being held on call in the Medical Society building. Five cases were discussed, October 6, from the standpoint of early cancer detection. This educational study is financed by a grant from the American Cancer Society, D. C. Division, Inc. and has the coöperation of 9 District of Columbia hospitals: Columbia Hospital for Women, D. C. General, Providence, Freedmen's, Georgetown University, George Washington University, Doctors, Sibley Memorial, and the Washington Hospital Center.

These case review meetings are open to all physicians. The Ad Hoc Committee on Cancer welcomes and encourages participation so that more physicians may benefit by an exchange of knowledge and experience in the early diagnosis and treatment of cancer of the colon and rectum. Meeting notices are posted in all hospitals. Please call the D. C. Medical Society (223-2230) if you wish to receive notices at your office or home of these meetings.



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With Hygroton, you'll discover that you can almost always use fewer tablets than is possible with other diuretics.

You may be told that a new short-acting diuretic was found more effective than Hygroton in congestive heart failure—but this was when twice the manufacturer's maximum recommended dose was given.* At the maximum recommended dose for both diuretics, two tablets of Hygroton were far and away more effective than five tablets of the other diuretic in producing natruresis and weight loss. And at these dosages, Hygroton costs only $\frac{1}{3}$ as much as the other diuretic.

Since the discovery of chlorothiazide, the trend has been away from short-acting, multiple-dose, high-cost diuretics. With Hygroton you can usually do the job with just one tablet a day, or every other day.

More than any of the newer diuretics, Hygroton brings dosage and cost of medication down to earth.

*Brest, A. N., et al.: J. New Drugs 5:329, 1965.

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Indications: Hypertension and many types of edema involving retention of salt and water. **Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease. **Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind. **Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. **Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration. **Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day. **Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

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AMA Volunteer Physicians for Vietnam

AMA VOLUNTEER PHYSICIANS for Vietnam is characterized officially as a program for supplying medical care to the civilian population of South Vietnam through the volunteer services of American physicians. It is a program administered by the American Medical Association and financed by the United States Agency for International Development (USAID). The idea for the program grew out of a request by Vietnamese authorities that the U. S. Government encourage physicians to volunteer their services in Vietnam.

The need was great. Twenty-five years of war and insurrection had placed tremendous health burdens on the Vietnamese people: war injuries, endemic diseases and malnutrition enhanced by a breakdown of public health measures, and a serious shortage of doctors and nurses as more and more of the country's health personnel were called into military service. In 1964 only about 350 of South Vietnam's approximately 1,000 physicians were left to minister to 15 million civilians.

Established on July 28, 1965, the physician-volunteer program was first called Project Vietnam and was administered by People-to-People Health Foundation, Inc., with the AMA assisting in recruitment. After successfully implementing Project Vietnam on a pilot basis, People-to-People Foundation asked that the program be turned over to some other responsible agency, preferably the AMA. At the invitation of the Agency for International Development, the AMA assumed administrative responsibility on June 30, 1966. Under the AMA's aegis the program is known as AMA Volunteer Physicians for Vietnam.

Physicians sent to Vietnam under the program serve a 60-day tour of duty at one of 16 provincial hospitals. The volunteer receives only his transportation and an expense allowance of 10 dollars a day.

At the hospitals the volunteers work with the Vietnamese medical chief in the capacity of advisors. They also may work with teams of U. S. Public Health Service physicians or military physicians and corpsmen; these teams, assigned to USAID for service in provincial areas, provide continuity in the volunteer program.

Twenty-four to 32 physicians are needed in Vietnam at all times to ensure volunteer staffing at every hospital. Twelve to 16 physicians must be sent every month to maintain that level. Most needed are general practitioners, internists, general surgeons, and orthopedic surgeons. A small number of specialists in other fields such as oph-

thalmology, radiology, psychiatry and pediatrics are needed from time to time when it is certain that the time and skills of a specialist can be used most effectively.

Program requirements call for the volunteer to be in good health and not more than 55 years old. No dependents may accompany the volunteer, even if medically qualified.

A passport and visa are required of all volunteers going to Vietnam, and assistance is given the physician in obtaining them. The volunteer also must have a certificate of vaccination against smallpox and inoculation against cholera, received in the last 4 to 6 months. Immunization against plague, typhoid, tetanus, typhus and polio are recommended by the World Health Organization.

Housing is provided in Vietnam in available hotels or apartments. Expenses connected with passport, visa and immunization are paid by USAID through AMA Volunteer Physicians for Vietnam. Each volunteer is covered, while in Vietnam, by a \$50,000 all-risk insurance policy at no expense to himself.

Upon arrival in Saigon the volunteer is met by the Field Director of AMA Volunteer Physicians for Vietnam, or an associate, and directed to the proper destination. The Field Director also assists hospital staffs with supply and logistical problems.

Information about the program may be obtained by contacting AMA Volunteer Physicians for Vietnam, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

What does the American volunteer physician do in Vietnam and what does he accomplish?

The American physician who adapts most easily to life in a Vietnamese hospital is likely to be a man who can improvise—one who is not stymied by chronic lack of equipment but can substitute or "roll his own."

As to what medical and surgical problem he encounters—the picture varies from area to area. In some places war wounds make up 80 to 90 per cent of all surgical cases simply because there are so many of them that little time remains to do elective operations. Civilian wounds result from bombing and shelling of villages by both our forces and the Viet Cong; from civilians being caught between opposing forces in a fire fight; and from Viet Cong mines and booby traps. Of course, more than a few wounded "civilians" are very likely Viet Cong personnel or sympathizers. The

patients are treated without question, however, and this fact may have long-range effects—even a hard-core rebel may appreciate good medical treatment at the hands of a doctor who has come halfway around the world.

To say that the physician may see a lot of war casualties does not mean that he will be in a combat zone. On the contrary, volunteer physicians are never placed in “hot” combat areas although they may occasionally hear the sounds of distant military actions.

Medical problems also vary from area to area but tend to revolve around the major diseases of the country—tuberculosis, trachoma, hepatitis, dysentery, and intestinal parasitism. The opportunity to observe and treat exotic diseases is probably greater here than in any other area to which the American physician has access.

Physicians who have been through the volunteer program are almost unanimous in recommending it as a piece of person-to-person foreign aid that “pays off” handsomely for the United States. The American doctors are, for the most part, admired and respected by the Vietnamese.

Vietnamese parents bring children long distances to see the American physicians.

At the same time this relationship is being built with the Vietnamese people, the volunteer physicians are building strong links with the Vietnamese medical profession, and thus with Vietnamese opinion leaders.

The Americans are, perhaps, a bit too anxious to teach on occasion. One barrier the American physician must pass is the tendency to teach the proud, sensitive Vietnamese the “right” way to do things. The Vietnamese physician will usually accept knowledge where it is offered judiciously; this very human pride and sensitivity are valuable reminders of the common human bond which unites us despite some vast differences in cultural trappings.

As physicians we can be proud of the human and humane response of our profession to the needs of the Vietnamese. Physicians returning from the Vietnam experience usually mention cultural differences only secondarily. Almost as a single voice their first concern is for the people and their immense suffering.

Georgetown to Construct Concentrated Care Center

A CONCENTRATED CARE CENTER, a new concept in hospital care and design, will be constructed at Georgetown University, according to an announcement to the press, November 28. The Federal Government has pledged \$7,130,000 in planning and construction funds and Georgetown University will provide \$3.7 million. Work on the facility will begin next summer.

The uniquely planned facility, scheduled to be completed in 1969, was featured in the December 2 issue of LIFE Magazine. It may become a blueprint for hospital design throughout the world.

Plans for the Center resulted from the work of 4 Georgetown physicians, Drs. Charles A. Hufnagel, Professor of Surgery; John F. Gillespie, Assistant Professor of Surgery; Charles F. Geschickter, Professor of Pathology; and W. Proctor Harvey, Professor of Medicine.

The 9-story, 246-bed Concentrated Care Center will be added and integrated to the west end of the present Georgetown University Hospital. As the name implies, it will separate the critically ill patients from those who are undergoing diagnosis or receiving convalescent care, a practice not used in existing conventional hospitals, including the one at Georgetown.

In addition, the Concentrated Care Center will serve as a disaster center for the Metropolitan Washington Area. It will be capable of handling simultaneously up to 1,000 victims of such disasters as floods, explosions, riots, fires, or airplane crashes.

The Reverend Mark H. Bauer, S.J., Vice President for Medical Center Affairs, said many innovations are feasible when management of the critically ill and handling of emergency facilities are centralized. Among the advantages will be the proximity of life-saving equipment and the constant availability of highly trained personnel. Specifically trained life-saving teams will be on instant call to handle cardiac, kidney, cancer, and other serious illnesses. On each floor each team will have a corresponding research laboratory to meet patient requirements.

The Concentrated Care Center will include a shelter area, complete emergency treatment and supply facilities, a specially designed suite of 20 operating rooms, and a preoperative area, all of which will be underground, infection-guarded, and protected against nuclear fallout.

The present hospital facility will be used to provide care for the majority of patients who need only conventional treatment.

Look how many ways

Thorazine®

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chlorpromazine

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	Tranquilizer	Potentiator	Antiemetic
Agitation	●		
Alcoholism	●		●
Anxiety	●		
Cancer patients	●	●	●
Severe neurodermatitis	●		
Drug addiction withdrawal symptoms	●		●
Emotional disturbances (moderate to severe)	●		
Nausea & vomiting	●		●
Neurological disorders	●		
Obstetrics	●	●	●
Pain	●	●	●
Pediatrics	●	●	●
Porphyria	●	●	
Psychiatric disorders	●		
Hiccups—refractory	●		
Senile agitation	●		
Surgery	●	●	●
Tetanus	●	●	

'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. **Contraindications:** Comatose states or the presence of large amounts of C.N.S. depressants. **Precautions:** Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. **Side Effects:** Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with

I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

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Proceedings of the Annual Business Meeting

DR. ROBERT J. COFFEY, President of the Medical Society of the District of Columbia, called the meeting to order at 4:20 p.m. on Sunday, November 20, 1966. As the first order of business he asked those present to rise as he read the name of each of the physicians who had passed away since the last business meeting. Following this he called for a moment of silence.

Deceased Members

Adams, Roy D. (Life)—October 11, 1966
Anagnos, S. George (Active)—September 24, 1966
Barr, E. Osmun (Special)—December 21, 1965
Bliss, Raymond W. (Honorary)—December 12, 1965
Brown, Leo T. (Active)—January 15, 1966
Brushart, Marshall E. (Associate)—October 24, 1966
Cafritz, Edward A. (Life)—February 25, 1966
Carpousis, Aris (Active)—April 15, 1966
Christensen, Thomas A. (Associate)—April 4, 1966
Clum, John P. (Associate)—October 2, 1966
Conrad, Agnes (Active)—February 17, 1966
Cross, Merrill M. (Associate)—November 13, 1965
DuChez, John W. (Active)—June 5, 1966
Gaffney, Leo B. (Active)—October 24, 1965
Gill, Coleridge M. (Active)—December 1, 1965
Harris, Joseph (Special)—October 19, 1965
Hungerford, Vincent B. (Active)—December 10, 1965
Lee, Thomas S. (Life)—February 17, 1966
Lichtenberg, Henry H. (Active)—October 18, 1966
Lucas, Wendell M. (Active)—May 2, 1966
McGrath, Robert S. (Active)—January 8, 1966
Moss, Fred A. (Life)—July 27, 1966
Nelson, Donald (Associate)—December 14, 1965
Radice, Julius J. (Active)—January 15, 1966
Rogers, Floyd S. (Active)—May 7, 1966
Silverman, Morris (Active)—May 30, 1966
Snowden, Edgar (Life)—January 5, 1966
Snyder, Luther H. (Active)—February 6, 1966
Stuart, George J. (Active)—January 29, 1966
Trozzo, Frank M., Jr. (Associate)—October 20, 1966
Young, William G. (Life)—October 16, 1966

Remarks of the President

"Inasmuch as I am concluding my tenure as President of your Society, I should like to again acknowledge the honor in being elected to this office and my pleasure in having served.

"Since I have had the custody of this office for the past 12 months it would seem appropriate to present a capsular summary of what have seemed to me to be significant observations and impressions that I have gained.

"The most notable development in this past year has been the initial impact of Federal control on the practice of medicine. While we know that Medicare is only one step on the ladder and that more sweeping controls will be subsequently applied, we have, in my opinion, learned certain important things. It is more urgent and important than ever before that we now close our ranks, seal the cracks, and eliminate any family squabbles so that we may in a unified, cohesive manner control and

favorably modify the application of these regulations. All elements of our medical community—the generalists, the specialists, those associated with community hospitals, those a part of the university hospitals and faculties—must form one solid block.

"It has been a great satisfaction to observe the role our Society has played in bringing about such a total effort in the development of the approved Regional Center Planning Grant about which you will hear more. This effort has also made it crystal clear that we must maintain friendly and coöperative relations with the Medical Societies of our adjoining and adjacent counties.

"One of the most impressive things to me about our Society has been the tremendous amount of committee work that is required and faithfully carried out. Only those who are in a position to view the total effort can appreciate the hundreds of hours that are generously contributed by dozens of our members in maintaining a healthy, vigorous Society through their committee efforts. It has been my hope that sometime someone will compose an article about this for the information of the lay public, presuming, of course, that we could induce one of our local papers to publish it. With the increased growth of our Society and the additional committee demands, I would plead with our younger members to interest themselves in this aspect of the Society's operation. New blood is vital in order to maintain this activity.

"This year has been a landmark in our history in that we occupied this beautiful new building which is a testimonial to the vision, imagination and planning of many of those in attendance today. The improved facilities and services in our new headquarters are being used with increasing frequency not only by our own Society and its sectional groups but also by voluntary health and similar organizations. However, even with the expertise of our capable Executive Director and his assistants, the staffing problem increases each month, with added personnel and budget demands.

"To conclude, I should like to sincerely and genuinely express my thanks to the many members of the Society who by their coöperation during the past year have made my task a much easier one."

Report of the Board of Credentials

The Chairman referred to this report (see page 63) published in the call for the Annual Business Meeting and sent to all voting members. He stated that if there were no questions concerning it, it would be considered for information only.

Report of the Executive Board

The Chairman called upon J. Spencer Dryden to present the Report of the Executive Board (see page 53). Dr. Dryden reviewed briefly most of the Report but pointed out that some of the items required membership approval.

On recommendation of the Executive Board, the following nominees were approved:

Paul R. Wilner, to the Board of Trustees of

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Group Hospitalization, Inc. for a 5-year term, to replace Paul Kiernan.

Jack Kleh, for a second 3-year term to the Board of Trustees of Medical Service of D. C.

Philip H. Philbin, for a second 3-year term to the Board of Trustees of Medical Service of D. C.

For membership on the Board of Directors of the Health Foundation of D. C. for 1-year terms or until their successors are named:

Robert J. Coffey, M. D. (Society President)
Henry D. Ecker, M. D. (Society President-elect)
George W. Cooley (Society Secretary-Treasurer)
Marvin C. Korengold, M. D.
Edward W. Nicklas, M. D.
Roland B. Scott, M. D.
Mr. Renah Camalier
Wilfred Dudley, D. D. S.
Grace Matthews, R. N.
John McHugh, Pharmacist
Mrs. Harold T. Yates

In reference to the above Board members, Dr. Dryden pointed out that the By-laws of this Foundation provide for 11 members to be named by the Medical Society and to include the President, President-elect, the Secretary-Treasurer, a dentist, a pharmacist, and a registered nurse.

At this point, Dr. Dryden called upon Leroy Dunn, Chairman of the Committee on Constitution and By-laws, to present the recommendations of this Committee as approved by the Executive Board.

Dr. Dunn stated that there were some errors in copying the recommendations as published and at this time he would present them in their proper order.

On motion made, seconded, and carried Chapter II of Article II was divided into 3 new sections, Sections 1, 2, and 3.

Dr. Dunn moved, and it was seconded, that the new Section 1 read as follows with that portion in parentheses to be deleted:

"Active members, except as herein provided, (shall be citizens of the United States) shall be reputable and legally qualified doctors of medicine in the District of Columbia who are not Active members of another constituent association of the American Medical Association."

On the call for discussion of the motion a number of members questioned the reasons why the phrase "shall be citizens of the United States" was deleted. Dr. Dunn pointed out that over 50 members of the Society who were licensed to practice in the District of Columbia were required to be Associate members because of this provision of the By-laws. There was some discussion concerning the propriety of this and considerable support for the deletion. On a call for a vote by a raise of hands this change in the By-laws was approved, with 2 dissenting votes.

Dr. Dunn moved that the new Section 2 be changed to read as follows (the italicized words constitute the added phrase):

"Doctors of medicine residing in or having offices in the District of Columbia who are engaged in collateral lines of activity or research but not in active practice or who represent the American Medical Association, National Voluntary Health Agencies, or the Federal or District of Columbia governments may be elected to Active membership."

After brief discussion this change was approved unanimously.

Dr. Dunn moved that the new Section 3 be changed to read as follows:

"Active members shall have all privileges of the Society, including the right to vote and hold office. They shall be subject to its discipline and pay such dues and assessments as may be imposed by the Society. It is incumbent on each member to report to the Board of Credentials any change in his or her eligibility for a given membership classification."

The italicized portion represents the additional sentence. With the motion duly seconded and no discussion, the new Section 3 was approved.

Dr. Dunn recommended that Chapter III, Article II be amended by adding the italicized portion as shown below:

"One hundred Active, Life, and Special members present shall constitute a quorum. In the event of failure to obtain a quorum, such business determined to be general policy by the Executive Board may be transacted by mail ballot. Ballots shall be mailed to all Active, Life and Special members. Envelopes in which ballots are mailed to the Society's offices shall bear the following legend in the lower left-hand corner, 'Official Ballot.' They may not be opened except in the presence of 2 or more tellers appointed by the President."

This motion was duly seconded and carried.

Dr. Dryden again took the podium to complete his report. He referred to the proposed budget for 1967 (see page 60).

He pointed out that a dues increase or a special assessment is under consideration by the Finance Committee and that a special report will be made to the membership at a later date. On a motion made, seconded, and carried the proposed budget for 1967 was approved.

Dr. Dryden explained that according to the Constitution and By-laws all members are elected for a 1-year provisional membership, following which their names are presented at the Annual Business Meeting for election to full membership. He referred to the list of members whose provisional tenure was completed. On a motion made, seconded, and carried these provisional members were elected to full membership. They consisted of 70 Active, 37 Associate, and 6 Resident-Intern members.

The Chairman thanked Dr. Dryden for his report and again took the podium.

Report of the Secretary-Treasurer

The Chairman referred to the report of the Secretary-Treasurer (page 58) stating that there was nothing in the report which required action by the membership. A motion was made and seconded to approve the report of the Secretary-Treasurer. During the discussion one member rose to protest the last 2 sentences of the first paragraph of the report which read: "I recommend that each and every psychiatrist become a 'landlord.' I am sure it is better training than psychoanalysis and much more practical." He said such comment was hardly in keeping with the Report of the Secretary-Treasurer and requested that

these 2 sentences be deleted. With the approval of the Secretary-Treasurer these 2 sentences were deleted and the Chairman called for a vote on the report as amended. It was approved unanimously.

Presentation of Awards

The Chairman called upon Warren Brill, Chairman of the Committee on Public Information and Education, to present the Awards for the Society.

Dr. Brill stated that these Awards are usually given at the Annual Luncheon during the Scientific Assembly, but that since there was no Assembly this year they were being presented at this time.

Certificate for Meritorious Service—An award to a physician in recognition of distinguished service to his profession. This was presented to Irving Burka. As a member and Chairman of the Griev-



DR. IRVING BURKA (right) receives the Medical Society's Certificate for Meritorious Service from Dr. Warren D. Brill, Chairman of the Committee on Public Information and Education, at the Annual Business Meeting of the Society, November 20.

ance Committee for several years, Dr. Burka has devoted endless hours and untiring effort to improve the image of the doctor to the patient and the doctor to his colleagues. His efforts have done much to elevate the ethical standards of medical practice in the community. He has successfully mediated embarrassing and difficult grievances between patients and their doctors.

Robins Community Service Award—An award by the A. H. Robins Company to a physician for outstanding service to the community. This was presented to Henry L. Darner. As a member of the Board of Trustees of Medical Service of D. C., and later as Chairman, he has donated many hours and undergone untold "trials and tribulations" in providing residents of this area with a Blue Shield

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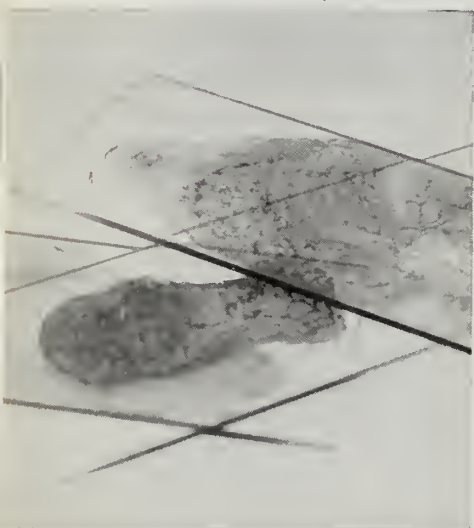
2. nonpregnant women with a history of recent or recurrent monilial vaginitis

3. elderly or debilitated patients



4. patients with a past history of moniliasis

5. patients on long-term tetracycline or corticosteroid therapy



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THE ROBINS COMMUNITY SERVICE AWARD went to Dr. Henry L. Darner (center). Congratulating him are Dr. Brill (left) and President Robert J. Coffey.

Plan of inestimable value. Whatever one's personal feelings at times, Dr. Darner has performed an outstanding service to the community.

The John Benjamin Nichols Award—An award to a lay person or a lay organization for outstanding contributions to the health of the community. This was presented to the D. C. Division of the American Cancer Society. The American Cancer Society has made tireless efforts to control this dread disease by its initiation and support of many programs in hospitals and elsewhere; helped victims of cancer financially; offered hope to countless thousands by support of the Cured Cancer Club and the Lost Chord Club; developed and supported the Cancer-Answer telephone service; developed and supported a program in the D. C. school system to discourage smoking by teenagers; and initiated other worthwhile projects. Dr. C. Roger Kurtz accepted the award on behalf of the Cancer Society, commenting briefly as follows:

Remarks of Dr. Kurtz

"I should first like to say that the successes of the Cancer Control Program in the District of Columbia

Division would not be possible without the guidance, leadership, and coöperation of our medical profession in the Division's policy-making and program execution.

"To give you a brief idea of the important role played by the medical and dental professions in the Cancer Control Program, this past year a total of 884 physicians and dentists attended 24 meetings presented by the Division; 87 meetings were attended by 2,900 graduate students and practical nurses; 16 programs were presented to a total of 1,540 medical and dental students through the St. George Society (medical students) and the Oral Cancer Society (dental students).

"A total of 739 film showings were presented to 68,750 lay persons. And here again it is encouraging to know that 550 of these programs had a physician speaker to answer questions from the audience.

"Not resting on our laurels, we have 2 major avenues of service to the community under way: First, in order to coördinate program activities and to be more precise in presenting cancer education to the community, Site Committees are being established to deal with the principal types of cancer, namely, skin, breast, colon/rectum, lung, oral cavity and uterine. Committee members from each of the major program areas (public education, professional education, public information and service) will be represented on these Site Committees, thus providing cross-fertilization of the Cancer Control Program.



DR. C. ROGER KURTZ, President of the D. C. Division of the American Cancer Society, accepts, on behalf of the Society, the John Benjamin Nichols Annual Award for laymen from Dr. Brill (left). President Coffey approved the selection of the Cancer Society for its many noteworthy contributions to the cause of cancer prevention and control.

"And second, a dramatic first-time example of across-the-board service for the total cancer patient will soon be in action. It is the establishment at the Washington Hospital Center of a professional counseling service. The aim will be service to the total person—the meeting of psychosocial needs as well as physical needs of the individual from diagnosis through rehabilitation. The counseling office will be staffed by a qualified social worker. The continuing services of the D. C. Division and services available in the community will be brought to bear on the problems which arise from the impact of the disease upon the patient and upon the family.

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"It is a great honor for the Division to be included with such a distinguished group of past recipients of this award. On behalf of the District of Columbia Division of the American Cancer Society and its 12,000 volunteers, I am sincerely proud and happy to accept this award."

Nominations for Officers

The chairman called upon Andrew G. Prandoni, Chairman of the Nominating Committee, to present its nominees for the elective offices of the Society. Dr. Prandoni presented the following names:

William S. McCune, President-elect
Frank S. Bacon, First Vice President
Margaret M. Kenrick, Second Vice President
Robert J. Coffey, member of Executive Board for a 4-year term
Michael J. McInerney and Philip R. James, members of Board of Credentials for 3-year terms
Raymond T. Holden, Delegate to AMA for a 2-year term
Clifton R. Gruver, Alternate Delegate to AMA for a 2-year term

These names were submitted in behalf of the other members of the Nominating Committee, which included J. Lawn Thompson, Jr., Herbert A. Goldberg, Frank S. Ashburn, Marshall deG. Ruffin, Albert J. Miele, and William M. Tribble.

The Chairman thanked Dr. Prandoni, called for any additional nominations from the floor, and then asked for a vote on each nominee individually. The nominees were elected unanimously, with their terms of office to begin January 1, 1967.

The Chairman asked that Dr. Ashburn and Dr. John A. Kenney escort Dr. McCune, the new President-elect, to the stage. Dr. McCune spoke briefly, expressing his appreciation for this honor and assuring the members that he would serve to the best of his ability.

The Chairman introduced the other officers elected, asking each to rise and be recognized.

The Chairman presented a Certificate of Appreciation to Dr. Paul R. Wilner, the immediate Past President of the Society.

Dr. Dryden then took over the microphone and presented Dr. Coffey with a silver-inscribed gavel in appreciation for his services during his year as President.

The Chairman introduced Henry D. Ecker, who will assume the office of President, January 1, 1967. Dr. Ecker commented briefly on his experiences as President-elect and his hopes for cooperation from all members during the coming year.

There being no further business, the meeting was adjourned for refreshments.

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this issue: the nose as a shock organ

the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.¹

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.²

Nasal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.³ The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.⁴ The cilia then sweep the particu-



late matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.⁵

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.⁶ The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.

While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.⁷ The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hyperplasia of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.⁸

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.⁹ In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.¹⁰ The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.¹¹ The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

(concluded on following page)

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precipitate an attack of rhinorrhea in hay fever sufferers.¹² Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.



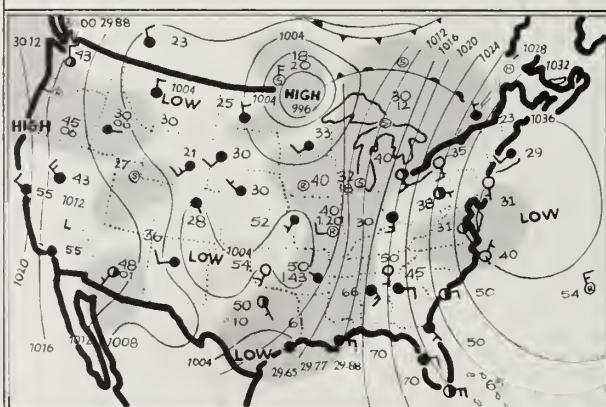
The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.¹³ This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections, antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases,

symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

- ### References
1. Maures, E. R., Mendez, F. C., Jr., and Hilsinger, R. C.: Importance of the Nose in Filtering and Humidifying Inspired Air. *Ohio State Med. J.* 61:41-42.
 2. Holmes, T., Goodell H., Wolf, S., and Wolff, H. G.: *The Nose*. Springfield, Ill. 1950 Charles C. Thomas p. 10 ff.
 3. Boies, L. H. R.: *Fundamentals of Otolaryngology*. Phila. W. B. Saunders Co. 1954 p. 160.
 4. Proetz, A. W.: *Applied Physiology of the Nose*. St. Louis 1941 Zimmerman-Petty Co. p. 6.
 5. Spikard, A.: *The Common Cold, A Survey*. *Disease of the Chest* 48:545-49. Nov. 1965.
 6. Ibid.
 7. Bourdial, J.: Role of Allergy in Upper Respiratory Tract Infection. *Europa Med. Paris* 4:75-80 1965.
 8. Holmes, et al. *The Nose* p. 22.
 9. Ibid. p. 320.
 10. Proetz, A. W. op. cit. p. 321.
 11. Ibid. p. 320.
 12. Rees, Linford J.: Psychogenic and Psychogenic Factors in Vasomotor Rhinitis. *J. Psychosomatic Research* 8:101 Sept. 1964.
 13. Horeish, A. J.: Allergy and Infection. *An Allergy* 23:621-35 Dec. 1965.

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Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** Patient should not drive a car or operate dangerous machinery if drowsiness occurs. Except under professional care, do not give to patients under 12 yrs. or those who have persistent cough, high fever, heart or thyroid disease, hypertension or diabetes or use for more than 10 days.

Reports Presented at Annual Business Meeting

November 20, 1966

Report of the Chairman of the Executive Board

THE REPORT OF THE CHAIRMAN for 1960 began, "The most significant event of the past year . . . was the enactment by Congress of the Federal Employees' Health Benefits Act." This year—1966—probably the most significant events (at least for medicine) to occur in many a year were the enactment by Congress of Medicare (PL 89-97) and the Program Regarding Heart Disease, Cancer and Stroke (PL 89-239). It is too early to comment on the effects of either program, but a "turn in the road" they are for the medical profession, the public, and the Government. With the exception of the F.E.H.B. Program, the Federal Government has always secured cut-rate medical services via "service" officers, drafted physicians, and reduced rates from physicians, hospitals, and nursing homes. For once Government will have to bear a full share of the costs of medical-hospital and related health services via payment rates.

Council and Committee Structure

The alteration made last year by creating 7 Councils, leaving only 4 Standing Committees in the By-laws and allowing all other committees to be named as needed, has worked well. On several occasions our President, Dr. Robert J. Coffey, has availed himself of this flexibility. The primary addition was the creation of a Committee on Regional Medical Programs to handle the previously noted PL 89-239.

The House and Building Fund Committee

The Society moved into the new headquarters on December 30, 1965, 2 weeks after the date set—probably an all-time record for any such action in the District. The building was far from complete, but an elevator, lights, and some heat were sufficient for our hardy staff. Some details are still not ironed out, but generally the building's use has been increasing month by month. As all those "in the know" said, it will take a year or more "to iron out the bugs," and that it will. But thanks to Dr. Frank S. Pelligrini and his Committee and to the Woman's Auxiliary, this has been a job well done. They were well assisted by our Executive Director, Mr. Warren Magee, our attorney, and Mr. Renah Camalier, our consulting attorney.

The dedication of the new headquarters took

place on Sunday, March 13, 1966 at 2:00 p.m., with Dr. James Appel, President of the American Medical Association, as the guest speaker. Over 450 members and wives visited the building that afternoon. If you have not had the "tour" you should do so at your convenience.

Use of the New Headquarters

Demands for use of the building have exceeded our staff's ability to meet them. More than 365 meetings have been held here during the first 10 months of 1966. It has been necessary, therefore, to establish use priorities and to eliminate use by some groups not related to medicine or medical care. The priority for the Executive Director to employ in allotting meeting space follows these general lines:

- First—Society Boards, Councils and Committees; 135 such meetings were scheduled the first 10 months of this year
- Second—Society Sections and the Woman's Auxiliary, with 33 meetings held to date
- Third—Specialty Societies, with 27 meetings to date
- Fourth—Jointly sponsored scientific programs. This is a relatively new activity since the old headquarters were not really suitable for such meetings. So far 35 such programs have been scheduled, including meetings of from 1 to 3 days on Tuberculosis, Immunization, Salmonellosis, Viral Hepatitis, Control of Infections in Hospitals, and Civil Defense
- Fifth—Boards, Committees and Conferences of Allied Health Agencies. Again this is a new use of the Society headquarters, with approximately 137 such meetings scheduled the first 10 months.

There may well be exceptions, but generally this is the priority followed. Meetings should be scheduled well in advance since the schedule is generally full 2 months ahead of time and cancellation, even within this priority, is most difficult.

Parking

The 2 floors of parking space were built primarily for use by the Executive Board, Committees of the Society, members visiting the Society offices on business, officers and guest speakers of Sections, and for staff members (when not required for the first 4 groups). This purpose has been well served with adequate space available. The Executive Director is also authorized to use his judgment in providing parking for officers and guest speakers

for meetings of other groups in the aforementioned priority list. So far this system has worked well.

I am sure it is evident to all members that for any meeting or jointly scheduled meeting with an anticipated attendance of over 30, parking cannot be made generally available, even to members, except as noted above. One of the reasons for selecting this location was because over 400 members have offices within walking distance and therefore parking space. On Saturdays, Sundays, and evenings plenty of parking is available on 20th Street and Eye Street within a half block. For week-day meetings parking is usually available within a block and a half.

Committee on Regional Medical Programs

This new Committee, under the chairmanship of Dr. Desmond S. O'Doherty, was instructed by the Executive Board to take the leadership in implementing PL 89-239 (Heart Disease, Cancer, and Stroke). It has done just that, and with the coöperation of all 3 Medical Schools, all Medical Societies except Prince Georges County, all Health Department Directors, and most other agencies and groups in the metropolitan area, an application for a 3-year planning grant has been submitted on behalf of the Medical Society. The application has been acted upon favorably by the National Advisory Council on Regional Medical Programs. The Committee is working with the staff of NIH on details and has hopes of getting a "go ahead" sign before January 1, 1967.

This Program has great potential and can become a positive and coördinating factor in improving research, continuing education, and patient care in the fields specified by the law. This will, however, require the coöperation of the 30 organizations asked to name representatives to the Advisory Group (established to advise on the planning grants and on carrying out programs). If approved, this will be a big task for 1967-1969.

Medicolegal Committee

Last year this Committee sought 2 pieces of much needed legislation. Their efforts have finally brought some results. With the assistance of the Child Welfare Committee, a Child Abuse Law has been reported out by the Senate and is in the House. As it stands it contains most of the provisions requested by the Society.

The Committee finally succeeded in its efforts to have Congress pass a "Good Samaritan" Law, again with acceptance of most of the provisions recommended by the Society.

It has maintained a continuing relationship with the D. C. Bar Association and continues to wrestle with the mounting costs of the Society-approved professional liability coverage.

Medicare

For several years a Committee with Dr. Jack Kleh as Chairman has sought to improve medical care for the aged and for public welfare recipients. On at least 2 occasions recommendations have been made to the District Commissioners and to the Public Health Department. With the passage of Medicare the Committee again submitted specific recommendations for implementation of Title XIX of PL 89-97 (published in the *MEDICAL ANNALS*, September, 1966). In his planning for a program under Title XIX, Dr. Murray Grant, Public Health Department Director, not only indicated concurrence with most of these recommendations but also added Society representatives to most of the ad hoc committees he established for planning purposes. The final plans have not yet been submitted by Dr. Grant to the Society, but it is hoped something concrete will be forthcoming by late fall.

Relative Value Study Committee

This Committee, Dr. Frank Bacon, Chairman, encountered the same agonies of those of previous years. The proposed Scale submitted to the membership by the Executive Board received a favorable response via postal card returns. This was challenged by the Sections on General Surgery and Anesthesiology who requested a special membership meeting. At the special meeting on April 24, 1966 it was voted to have a Relative Value Scale of the Medical Society of the District of Columbia (reaffirming the policy adopted in 1959) but it was also voted to disapprove the Schedule proposed by the Executive Board.

As a result the Executive Board instructed this Committee to proceed to develop a new Relative Value Scale in coöperation with the Society's Specialty Sections. With a new Scale completed, a second special membership meeting was called for July 19, 1966. With little discussion it was voted unanimously to approve this Relative Value Scale of the Medical Society of the District of Columbia.

The Executive Board believes that this new Relative Value Scale should be used in establishing any fee schedule for or on behalf of the Medical Society members.

The Committee will meet as necessary to consider suggested additions, deletions, and changes.

Fee Review Committee

This is one of the hardest working committees and holds regular monthly meetings to consider cases referred primarily by Medical Service of D. C. and the Health Insurance Council. Dr. Herbert M. Giffin, Chairman, reviews all cases prior to the meeting and allocates individual cases to various members to "investigate" more carefully so as to have all necessary data available for the meeting. To date 1 case on which the Committee made a recommendation has gone to court, with the decision upholding Medical Service of D. C. and the Committee.

The Committee works under guidelines approved by the Executive Board, published in the *MEDICAL ANNALS* in January 1966. The number of cases considered varies from year to year as the following figures for the first 9 months of the past 4 years show:

1966	100
1965	175
1964	176
1963	103

There seems to be no special reason for the wide difference between the low number of complaints in 1963 and 1966 and the relatively high number in 1964 and 1965. A tabulation of all cases since the origin of the Committee is in process just to see what the total experience has been.

Grievance Committee

Dr. Irving Burka has earned a vote of appreciation from this Society for chairing this Committee to the benefit of physicians and patients alike. The Society membership is also due an accolade for coöperating with the Committee. Its objective is to assist you and your patients, so don't resent a letter from the Committee. It's your patient and, right or wrong, suits, gossip, and letters to the editor, all damaging to you and to medicine, may be and usually are avoided.

This is another committee that meets monthly. Its load can vary considerably, with 36 complaints the first 9 months of 1966, and 46, 39 and 80 considered during the same periods in 1965, 1964 and 1963, respectively.

D. C. Health Department Hospital Regulations

After some 8 or 10 years and the preparation of an equal number of drafts on hospital regulations, a special committee, chaired by Dr. Paul R. Wilner, with representation from the Health De-

partment and Hospital Council, seems to have agreed upon a set of hospital regulations for the District. The status of this supposedly "final" draft is not known but it is hoped that the Commissioners will see fit to adopt it.

Committee on Environmental Health

On recommendation of this Committee, Dr. Harold M. Hobart, Chairman, a strong statement on air pollution was released to the press. It has received wide acclaim and coverage in news media. An equally strong statement on water pollution is being prepared by the Committee.

Group Hospitalization Inc.—Hospital Controversy

This controversy became a direct concern to the Medical Society when it reached the public by press, radio and TV. While the Board was not a party to any direct negotiations, it did make the concern of the Society and its members known to both parties and offered its services to resolve the growing estrangement between the hospitals and GHI.

One result was the recognition by the Board that there was little or no liaison between this Society's representatives to GHI and the Society itself. We have, therefore, resolved to establish a consistent liaison, not only with our GHI representatives but also with those on the Board of Trustees of Medical Service of D. C.

Administration of St. Elizabeths Hospital

On recommendation of the Committee on Mental Health, Dr. Leon Yochelson, Chairman, the Medical Advisory Committee of the Department of Public Health was notified by the Executive Board that it "opposes at this time" (January 1966) any change in the administration of St. Elizabeths Hospital and strongly urged the establishment of a liaison group between that Hospital and the Health Department to insure more adequate communication.

Low-cost Drug Program

A program of low-cost penicillin for patients with rheumatic heart disease was jointly sponsored by the Medical Society, the Medico-Chirurgical Society, the Health Department, the District Pharmaceutical Association, and the Washington Heart Association. The Board insisted that the decision as to which patients are eligible should remain with the physician; this has been done. Members in general practice, obstetrics-gynecology, internal medicine, and pedi-

atries were sent notices of the program, to begin on November 1, 1966.

Committee on Smoking and Health

This Committee, with Dr. George W. Ware as Chairman, developed a policy statement on cigarette smoking and the sale of cigarettes in hospitals. This was sent to each hospital and received good publicity on radio, television and in the press. Committee representatives have participated in the educational programs of the Inter-agency Council on Smoking and Health and held an award ceremony to honor students who wrote the best essays in a contest sponsored by the Council.

Ad Hoc Cancer Study Committee

With a grant from the D. C. Division of the American Cancer Society this new Committee is undertaking a study of cancer of the sigmoid colon and rectum in coöperation with local hospital staffs. Dr. John F. Potter, Chairman, has received excellent coöperation from both hospitals and individual physicians. Case review meetings will be held periodically, open to all interested physicians.

Community Health Week

For several years the AMA has urged Medical Societies to sponsor a Community Health Week during a week designated by the AMA. Last year this Society undertook a few projects on radio and television. This year Dr. Warren D. Brill, Chairman of the Committee on Public Information and Education, stepped up Community Health Week to include in the Society Exhibit Hall a number of exhibits and tests for glaucoma, hearing, and blood typing, plus the Health Department's Mobile Chest X-ray Unit in front of the Society building. Since this was an experiment the Committee used half days only from Sunday through Wednesday (October 16-19). With a minimum of publicity this trial run proved far more satisfactory than expected and will help to determine what the future of such public-oriented programs should be.

Group Life Insurance Program

A basic \$10,000 low-premium life insurance program was approved on the recommendation of the Committee on Society Insurance Programs, Dr. Thomas M. Arnett, Chairman. The primary objectives are to offer basic inexpensive coverage to new members and, if possible, to enroll enough

subscribers to eliminate any physical requirements. If 650 members sign up, the waiver of physical requirements will be of real value.

Commission on Licensure

At the request of the President, Dr. Robert J. Coffey, an Ad Hoc Committee was appointed to study the medical licensure system in the District, particularly as it compares with those of other licensure jurisdictions. Dr. John J. Hughes is Chairman and has already surveyed some 40 state medical licensure boards.

Nominations

Board of Trustees of Group Hospitalization, Inc. Each year the President with Executive Board approval names a representative of the Society to fill the vacancy of a member whose term expires in the spring of the following year. It is therefore recommended that Dr. Paul R. Wilner be named to a 5-year term to replace Dr. Paul Kiernan, whose term expires in March, 1967.

Other Society representatives on the Board are Drs. Brooks G. Brown (1971), O. Hugh Fulcher (1969), Josephine Renshaw (1970), and Ralph D. Whitley (1968).

This nomination becomes final if approved by the Society and is not voted on at the GHI Annual Business Meeting.

Board of Trustees of Medical Service of D. C. Each year the President with approval of the Executive Board makes nominations to the Board of Trustees of Medical Service of D.C. to fill terms expiring in the spring of the following year—in this case, 1967. It is therefore recommended that Dr. Jack Kleh be renominated for a second term of 3 years and that Dr. Philip H. Philbin be renominated for a second 3-year term.

Other Society representatives on the Board include Drs. Frank S. Pellegrini, Leonard T. Peterson, Edward W. Nicklas, Charles T. Bickham, Donald Stubbs (as a member of the Board of National Association Blue Shield Plans), and C. Willard Camalier, Jr., now President of Medical Service of D. C.

These nominations, if approved by the Society, will be presented at the Annual Business Meeting of Medical Service of D. C.

Health Foundation of D. C. The By-laws of this Foundation (organized as a nonprofit, charitable organization to which gifts are tax-deductible) provide that the 11 members of its Board of Directors be named by the Medical Society. The Board must include the President, President-elect,

and Secretary-Treasurer of the Society plus a dentist, a pharmacist and a registered nurse.

It is recommended that the following be approved as members of the Board of Directors of the Health Foundation of D. C. (for 1-year terms or until their successors are named):

Robert J. Coffey, M.D. (Society President)
Henry D. Ecker, M.D. (Society President-elect)
George W. Cooley (Society Secretary-Treasurer)
Marvin C. Korengold, M.D.
Edward W. Nicklas, M.D.
Roland B. Scott, M.D.
Mr. Renah Camalier
Wilfred Dudley, D.D.S.
Grace Matthews, R.N.
John McHugh, Pharmacist
Mrs. Harold T. Yates

Committee on Constitution and By-laws

Each year this Committee reviews the Constitution and By-laws and makes recommendations for changes to the Executive Board. [The changes recommended are found in the Proceedings (pages 44 and 45).]

* * * * *

Proposed Budget for 1967

The proposed budget for next year appears on pages 60-61 and gives you some idea of the volume of funds handled through the Society offices. The Report of the Secretary-Treasurer comments on various portions of the proposed budget. The Finance Committee is studying some of the ideas proposed there and will analyze the Society's financial situation and the need for any change in dues or for a special assessment.

Duplication of Meetings

At the last Annual Business Meeting Dr. Milton C. Cobey brought up under "Other Business" the possibility of reducing the many medical meetings by having the Commission on Accreditation of Hospitals permit credit for attendance at scientific meetings other than those held in hospitals.

Dr. Raymond T. Holden, our Senior Delegate, suggested that a resolution to this effect be introduced into the AMA House of Delegates. Therefore, in June 1966 the following resolution was introduced:

WHEREAS: In metropolitan areas many physicians must by necessity have hospital privileges on more than 1 hospital staff; and

WHEREAS: The number of required meetings in each hospital is now a burden and, with Medicare, will become an increasing burden on staff members; and

WHEREAS: Many medical society specialty sections and local specialty societies can and do conduct organized programs equivalent to, or of greater value than, many required hospital staff meetings; and

WHEREAS: A closer liaison between the programming of meetings of specialty sections of medical societies, the specialty societies, and hospital staffs to coördinate and combine their meetings would reduce the burden on many physicians and provide for wider dissemination of information accumulated for staff meetings; *therefore be it*

Resolved: That the AMA representatives to the Commission on Accreditation of Hospitals be requested to determine the feasibility of and mechanism for permitting attendance at scientific meetings of Medical Society specialty sections and similar meetings of specialty societies, under Medical Society auspices, to be credited as attendance at hospital department meetings; *and be it further*

Resolved: That these representatives report back to this House at the 1966 Clinical Meeting.

The House of Delegates adopted the following in reference to this resolution:

"In considering Resolution 13, your reference committee reviewed statements of the Joint Commission on Accreditation of Hospitals in its 'Standards for Hospital Accreditation' and the 'Explanatory Supplement' thereto. These state:

'... Meetings of the medical staff are required to review, analyze and evaluate the clinical work of its members.

'... Meetings are held for the purpose of reviewing the medical care of patients within the hospital and those recently discharged and not for the presentation of scientific papers or discussions.

'... This includes consideration of selected deaths, unimproved cases, infection, complications, errors in diagnosis, and results of treatment, and review of transfusions.'

"It was also noted that the JCAH standards currently provide for a choice of methods, to wit:

'(d) The method adopted to insure adequate evaluation of clinical practice in the hospital shall be determined by the medical staff and clearly stated in the by-laws. Any one of the following 3 methods will fulfill this requirement:

(1) Monthly meetings of the Active Staff.

(2) Monthly departmental conference in those hospitals where the clinical services are well organized and each department is large enough to meet as a unit. Clinicopathological conferences may be substituted for a departmental conference provided an adequate review of the clinical work is covered by one or another of such conferences.

(3) Monthly meetings of the Medical Records and Tissue Committees where the quality of medical work is adequately appraised, action taken by the Executive Committee, and reports made to the Active Staff.'

"Method No. 3 appears to provide relief for physicians with multiple staff appointments.

"Your reference committee has reviewed Resolution 13 and is in sympathy with its intent. Nevertheless, attendance at specialty and medical society meetings does not serve the purpose of reviewing the medical care of patients within an individual hospital and evaluating the quality of patient care in that institution.

"Your reference committee recommends that medical specialty societies and Medical Societies urge hospital medical staffs to take cognizance of existing flexibility of JCAH requirements re medical staff meetings and to incorporate appropriate provisions in their By-laws, Rules and Regulations."

New Members

The applications of all new members are acted upon by the Executive Board on the recommenda-

tion of the Board of Credentials. Board approval constitutes election to a 1-year provisional membership status. Therefore, at each Annual Business Meeting the Board presents the names of those members whose provisional term is expiring. Seventy Active, 37 Associate, and 6 Resident-Intern members will be voted to full membership at this time.

Finally, let me express my appreciation to the Executive Board, and to all members of the Society and its staff who have assisted in easing my tasks as Chairman of the Executive Board.

J. SPENCER DRYDEN, M.D.
Chairman, Executive Board

Report of the Secretary-Treasurer

SINCE THE SECRETARY-TREASURER is also the administrative executive his lot is a most complex and interesting one. Those of you who have read these reports for the past few years will now recognize the addition of "landlord" to the many duties previously enumerated. Having envisioned a "landlord" as someone important, it is with real humility that your Secretary-Treasurer now admits it is one of the lowest forms of human endeavor. Until you reach this low "pinnacle" you will never know the variations in human desires.

With a bit of a twist, the old adage, "You can fool some of the people all of the time, and all of the people some of the time, but not all of the people all of the time," becomes a question, "Can you satisfy any of the tenants any of the time?" I am sure, however, that in the long run those who voted (all but me) for room for expansion will prove correct. Even now, as the Chairman of the Executive Board reports, the demands for meeting space exceed our supply. So the Medical Society as a center for scientific and medically related meetings is a desirable trend.

Membership

Despite the expected loss in Associate members due to the increase in Associate dues to meet increasing costs of operation, the total membership remains rather constant. While Societies in most cities of comparable size have been increasing in membership by 5 to 10 per cent a year, this Society has grown very little and has probably reached a peak for the foreseeable future.

<i>Year</i>	<i>Active Members</i>	<i>Total Members</i>
1966	1,542	2,447
1965	1,510	2,412
1964	1,535	2,313
1963	1,532	2,275
1962	1,505	2,260
1961	1,485	2,233

The financing of the Society's activities depends primarily on the dues of Active members, although the new Associate dues now at least cover the costs of the MEDICAL ANNALS, Newsletters, mailings, etc. The lack of increase is obvious, with 2 of the area counties among the fastest growing in population in the United States while the District of Columbia population remains static. Active membership has also not increased, in part, because of "By-law" provisions regarding Life and Associate membership. Many physicians in both categories, excepting those who are Active members in other Medical Societies, are in the District in practice or in well-paying positions. As Secretary-Treasurer I have recommended that further consideration be given to both categories.

The Medical Bureau

The MEDICAL BUREAU calls continue to increase. A comparison of recorded calls (representing about 50 per cent of all the calls handled), the number of BUREAU members, and the number of operators is as follows:

<i>Year</i>	<i>Recorded Calls</i>	<i>Subscribers</i>	<i>Operators</i>
1966 (estimate)	1,100,000	813	35
1965	970,459	807	34
1964	916,000	784	34
1963	822,000	775	30
1962	768,000	773	29
1961	676,000	773	27

This means the operators will handle well over 2,000,000 calls this year, a record to date.

The BUREAU's quarters and the equipment for the operators are new and up-to-date. The salaries for operators, however, continue below those in Government agencies and private enterprise, especially the Telephone Company. We have lost good operators to both. Yet the BUREAU is comparable to neither, since Government and most businesses work 8 hours 5 days a week and the Telephone Company operators, while working similar hours, do not handle the same type of details and generally serve to complement the Company's mechanical equipment.

It isn't necessary to explain the problems confronting our BUREAU operators, and that they care for the needs of doctors and patients as well as they do is always amazing to anyone who has taken the time to sit in the BUREAU room for any length of time on any day. Yet, even with last year's raises, our present beginning salary is \$3,640.00 compared to the Telephone Company's beginning salary of \$4,000.00 plus certain time-and-a-half extras we do not provide. The implications should be obvious insofar as attracting and keeping good operators. Providing parking space has helped greatly to attract operators and to keep operators who might otherwise leave.

To remedy this, at least temporarily, increases from \$19.00 to \$21.00 per month for Secretarial Service and from \$12.00 to \$14.00 per month for "If no answer call" service have been approved. Since about 70 per cent of the cost of the BUREAU's operations is for operators' salaries, any future increases will depend upon the Telephone Company, whose employees (Communications Workers Union) are considering a strike for higher wages and better fringe benefits.

The Medical Bureau Committee has undertaken 2 studies. The first has to do with specialty listings on the "Referral List." This is the list from which 3 names are given when the public calls for names of doctors, usually for a given type of illness. It is most important in this "transient type" city where about 45,000 calls are received each year.

The second study concerns the listing of specialties in the yellow pages of the telephone directory. To date this has not been the policy of this Society, yet it is permitted by many other Societies. A survey form has been sent to some 40 City Societies to determine their policies and how the problem is handled.

The Medical Annals

The financial problems of the ANNALS began in 1960 with the Federal Drug investigations and the consequent reduction in advertising. With close scrutiny the \$22,000 deficit in 1962 was reduced to about \$16,000 in 1964. Subsequent increases in the cost of printing have again increased the deficit despite a substantial gain in advertising. We have increased our advertising rates as of July 1966 but despite this a Society dues subsidy of \$25,000 seems likely to occur for 1966.

The full effect of the rate raise should reduce this deficit to \$20,000 for 1967. This is still far too much to take from dues, and an increase in advertising rates may be again necessary, if such is possible for a journal with our limited distribution.

A city with a 3,000 distribution may or may not succeed in raising rates to the level of states with many more members, since to some extent rates depend on distribution. Most states with comparable physician population are low-cost printing areas. The Washington, D. C. area is probably the highest cost area for printing. To maintain a medical journal it will be necessary to reduce present deficits, made up by a subsidy, by at least 50 per cent or to raise the Society dues to cover at least that much of the subsidy.

Contributions for Headquarters Furnishings

When the decision to erect a new Society headquarters was made, the cost of the new furnishings was estimated to be a minimum of \$50,000. It was agreed that the new furnishings should be financed from voluntary contributions rather than levy an assessment on Active members.

The minimum goal has almost been reached, yet in one sense this approach was disappointing since only 200 members contributed as individuals. In another sense this approach was a most pleasant surprise. Some 15 Sections, Specialty Societies, related groups and even hospital staffs made contributions, totaling over \$9,000.00 and 1 Foundation contributed \$15,000.00. Obviously, many of the members whose names are missing from individual contributions were party to such group contributions.

Total contributions to date are something over \$43,000.00, with almost \$7,000.00 in possible pledge collections. Almost \$30,000.00 has already been used to purchase new furnishings, and another \$10,000.00 of furnishings and equipment are on order. This leaves us some cash, with Con-

ference Room C, the lobby, and portions of the Exhibit Hall to complete. So contributions are still welcome.

Society Finances

There follows a summary of the proposed 1967 budget. A total of over \$800,000.00 passes through the Society's books and must be handled as economically and safely as possible. During our first year in the new headquarters we will succeed in remaining in the "black." The 1967 proposed budget also anticipates a balanced budget but at some sacrifice—first, in number of employees and second, in salaries for office employees.

Despite the imposing \$800,000.00 balance sheet, all of which requires personnel to handle, the only flexible income use comes from \$135,000.00 in dues. Last year the Associate dues were raised (from \$15 to \$30) to more realistically cover costs of services. If the Society wishes to continue its present level of activity, raises should be forthcoming to staff members and 2 more staff members should be added (we now have 6 full-time and 3 part-time staff members). The increased building management load, evident in the 365 plus meetings, the increase in committee work and in some of the projects discussed in Dr. Dryden's report all require staff effort in some form.

It may well be necessary to recommend to the Executive Board that the dues of Active members be increased to provide funds for additional staff assistance and to keep the excellent personnel we now have, or recruit competent personnel when our present newly married girls decide to have families. In case the members do not realize it, you and I have a staff which will do everything they can to assist the members individually and to promote the image of the profession.

The financial arrangements in selling and buying property and in the construction of the new headquarters have been a long, complicated process. I made mistakes in planning some of the details, such as failing to assure proper switch control in the Exhibit Hall for the lighting and adequate voltage for some types of exhibits. These are being remedied based on experience with meetings. The architect and builder also made mistakes which they must remedy before final settlement. Final settlement should be made before the Annual Business Meeting.

The mortgage of \$500,000 at 5 per cent is covered in part by the \$150,000 left to be paid on the sale of 1718 M Street at \$15,000 a year for 10 years. In other words, the expansion of the original plans by almost 2 floors, plus the required equipment, accounts for \$350,000 of the additional financing needed.

While it would seem at this time that this poses no great problem the Society needs another year to learn just how it stands in both income and maintenance. In these turbulent times and yet times of good income the Society should consider reducing the mortgage with a special assessment. This would eliminate any need for a possible dues increase.

This Society, located in the Nation's Capital, has great potential and has often used this potential in the past. Now it has one of the finest and I am sure the most utilized headquarters of any Medical Society. This is good, and your Secretary-Treasurer and office staff will serve the Society and every member in every way possible. The adequacy of financing is determined by the membership and on this depend the quantity and quality of staffing.

GEORGE W. COOLEY
Secretary-Treasurer

Proposed Budget 1967

1. GENERAL FUND INCOME:

A. Dues			
1. Active and Special	\$120,000.00		
2. Associate	15,000.00		
3. Other	375.00	\$135,375.00	
B. Other Income			
1. Scientific Assembly*	\$15,000.00		
2. Due from property sale (annual payment for 10 years)	15,000.00		
3. Interest on savings	2,500.00		
4. Miscellaneous	2,500.00	35,000.00	
TOTAL GENERAL FUND INCOME			\$170,375.00

* Funds received which are automatically allocated and therefore not expendable for Society operations.

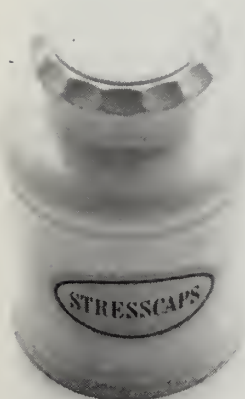
Proposed Budget 1967 (Continued)

C. Reimbursables*			
1. Cancer Morbidity Study	\$7,100.00		
2. AMA dues	72,000.00		
3. Blue Cross/Blue Shield	250,000.00		
4. Member and Agency services	7,800.00		
5. Miscellaneous	2,500.00		339,400.00
TOTAL GENERAL FUND INCOME AND REIMBURSABLES			<u>\$509,775.00</u>
II. GENERAL FUND EXPENSES			
A. Society Programs			
1. Medical Annals subsidy	\$20,000.00		
2. Scientific Assembly	15,000.00		
3. Committee activities, travel to meetings, Newsletter, etc.	18,000.00		
4. Meeting room space at \$4 sq. ft.	20,000.00		
5. Miscellaneous	750.00		\$73,750.00
B. Office Staffing			
1. Staff salaries	\$60,000.00		
2. Legal Counsel and Audit	3,500.00		
3. Retirement, Social Security, etc.	8,600.00		\$72,100.00
C. Office Operation			
1. Postage, supplies and equipment	\$7,500.00		
2. Telephone and Telegraph	4,400.00		
3. Space allotment at \$4.50 sq. ft.	15,000.00		26,900.00
TOTAL GENERAL FUND EXPENSES			<u>\$172,750.00</u>
D. Reimbursable Services			
Same as income I-C			\$335,050.00
TOTAL GENERAL FUND EXPENSES AND REIMBURSABLES			<u>\$507,800.00</u>
III. MEDICAL ANNALS INCOME			
1. Advertising, reprints, etc.	\$40,400.00		
2. General Fund subsidy (Item II-A)	20,000.00		\$ 60,400.00
IV. MEDICAL ANNALS EXPENSES			
1. Salaries, honorarium, retirement, etc.	\$17,500.00		
2. Printing, distribution, etc.	41,500.00		
3. Social Security and Miscellaneous	1,100.00		60,100.00
EXCESS OF INCOME OVER EXPENSES			<u>\$ 300.00</u>
V. MEDICAL BUREAU INCOME			
1. Member charges	\$185,000.00		
2. Miscellaneous	7,700.00		\$192,700.00
VI. MEDICAL BUREAU EXPENSES			
1. Administration	\$8,000.00		
2. Operators' salaries, retirement and insurance	139,200.00		
3. Telephone and Directory	25,000.00		
4. Space allotment at \$4 sq. ft.	4,000.00		
5. Equipment, supplies, etc.	10,400.00		186,600.00
EXCESS OF INCOME OVER EXPENSES			<u>\$ 6,100.00</u>
VII. BUILDING FUND INCOME			
1. Rental and leases	\$43,000.00		
2. Interest	3,600.00		
3. Medical Bureau space	4,000.00		
4. Society meeting room and office space	35,000.00		\$85,600.00
VIII. BUILDING FUND EXPENSES			
A. Operations and Maintenance			
1. Wages and service contracts	\$17,500.00		
2. Utilities and fuel	12,000.00		
3. Supplies and repairs	2,000.00		
4. Social Security, Insurance and Miscellaneous	1,750.00		\$33,250.00
B. Loan Payments			
1. Mortgage	\$25,000.00		
2. Interest	23,900.00		48,900.00
EXCESS OF INCOME OVER EXPENSES			<u>\$ 3,450.00</u>



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Vitamin B ₁ (Thiamine Mononitrate)	10 mg
Vitamin B ₂ (Riboflavin)	10 mg
Vitamin B ₆ (Pyridoxine HCl)	2 mg
Vitamin B ₁₂ Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

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Report of the Board of Credentials

SINCE the last Annual Business Meeting, November 21, 1965, the Board of Credentials has interviewed 127 applicants. The Board meets regularly each month and because of the accumulation of applications during some periods it was sometimes necessary to schedule 2 meetings in the course of 1 month.

In handling requests for changes in membership status it is now the policy for members who transfer from Active to Associate status in this area to verify that they are Active members in one of the county medical societies.

It has been recommended and approved by the Executive Board that all members drafted into military service or who are called up from the Reserves for active military duty pay no dues during their period of duty.

In the Report of the Secretary-Treasurer you will find a 6-year comparison of the total membership and number of Active members. If he is correct that total Active membership is leveling off to somewhat over 1,500, then the task of this Board will remain about the same as in the past. It is a pleasant task; because we interview all applicants we probably get to know more new members than any other group of physicians. The calibre of our new members remains high. The only change that might be welcomed is more general practitioners. Most applicants are specialists, as has been true for years.

MICHAEL J. MCINERNEY, M.D., *Chairman*

PHILIP R. JAMES, M.D.

JACK KLEH, M.D.

SEYMOUR ALPERT, M.D.

WILLIAM S. COLE, M.D.

EDWARD E. FERGUSON, M.D.

services for medically needy people, representing approximately 30 per cent of our present population.

If this program is to be successful it will require the greatest possible degree of coördination and coöperation between all public and private health resources.

The goals in our plan for medical assistance in D.C. are the promotion of a healthy population, the prevention of illness and premature death, the treatment of illness, and the provision of maximum rehabilitation of persons with disabilities. To achieve these goals the full use of our health resources and the best application of medical knowledge are required.

The plan indicates that health services must be readily available to all eligible persons. Moreover, it spells out standards aimed at insuring that health services will be of a high quality. The emphasis is focused on medical care as a part of a comprehensive plan for services, not just the payment of the medical bill.

The D.C. Department of Public Health has been designated by the District Commissioners as the District agency to administer Title XIX. To fulfill this role the Department has been reorganized and an Associate Director for Medical Care appointed. Also, the Medical Care and Hospitals Committee of the Public Health Advisory Council has been expanded to include 100 members, who represent a wide range of medical and paramedical interests.

As the Medicare program is now planned for the District, the medically needy will be covered by a comprehensive medical program, within allowable budgetary limitations. It will cover inpatient and outpatient hospital services, physicians' services (whether furnished in the office, the patient's home, a hospital, a nursing home, or elsewhere), skilled nursing-home services for persons over 21 years of age, and laboratory and X-ray services.

An eligibility income level of \$4,200 for a family of 4 has been established for 1967. At this level it is estimated that 217,300 persons will be eligible for services, and no additional District funds will be required.

It is anticipated that in 1968 the eligibility level can be raised to \$4,400, in 1969 to \$4,600, and in 1970 to \$4,780.

Those immediately eligible for Medicaid within the District will be persons who receive or are eligible to receive public assistance payments; those whose incomes are above the level of eligibility for financial assistance for daily mainte-

Health Dept. Notes

Medicaid Within the District

AS WE BEGIN the new year, one of the most important challenges facing the medical profession and the Health Department is the implementation of the Medical Assistance Program authorized by the 1965 amendments to the Social Security Act under Title XIX, the so-called Medicaid Plan.

Medicaid, when made fully operational in the District of Columbia, can continually provide comprehensive, high quality medical care and

nance, but under the \$4,200 eligibility level, and need assistance with medical bills; and all children under 21 years of age in any family whose income is under the \$4,200 level.

Under the State Plan, comprehensive medical care services will be provided to any eligible individual whether or not the cost of such services is Federally reimbursable under Title XIX. Services provided to an individual who does not meet the requirements will be paid for by the Government of the District of Columbia, and no claim for Federal reimbursement will be made.

In order to meet the requirements of Title XIX, the District's Medicaid program must be expanded by 1975 to make available to all medically indigent of all ages a comprehensive medical care program.

When the Medicaid program within the District

is operational, District Public Health facilities will not be able to provide all necessary services. Services will be contracted with private physicians and private medical facilities, and services can hopefully be provided by the physician chosen by the patient.

At the present time the District cannot participate in the Medicaid program because of certain changes which are required by law. Among them are elimination of residence requirement, limitation of financial responsibility of specified relatives, and changes associated with liens and other financial considerations.

Early action by Congress will permit the D.C. Department of Public Health to move ahead with implementing this needed medical care program.

MURRAY GRANT, M.D., D.P.H.
D. C. Director of Public Health

Dr. Hunter to Head Southern Medical in 1968

THE SOUTHERN MEDICAL ASSOCIATION closed its 60th Annual Meeting at the Washington Hilton Hotel on November 17. Upwards of 4,000 physicians, from 16 Southern states and the District of Columbia, attended the 4-day meeting which covered 22 specialty sections and many general medical subjects. Two of the highlights of the meeting were 7 closed-circuit color TV operations from Doctors Hospital beamed to a large screen in the International Ballroom at the Hotel and a closed circuit TV series of programs reporting convention activities to the delegates who attended the meeting.

Dr. Guy T. Vise, of Meridian, Miss., was installed as President of the Association at the President's Night Annual Dinner.

Dr. Oscar B. Hunter, Jr., of Washington, was chosen President-elect of the Association. Dr. Hunter is Director of the Oscar B. Hunter Memorial Laboratory and head of the Department of Pathology at Doctors Hospital.

Dr. Donald Marion, of Miami Beach, Fla., was elected First Vice President, and Dr. William P. Herbst III, of Washington, Second Vice President. Dr. Herbst was General Chairman of the meeting.

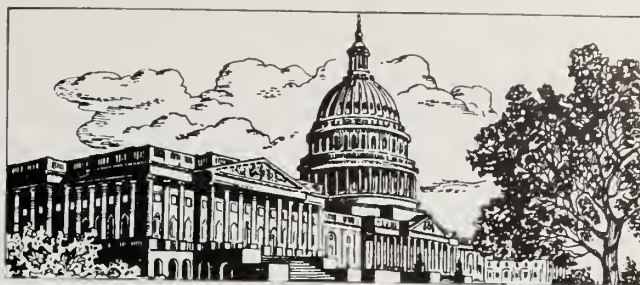
The first award, from a total of 61 scientific exhibits, went to a combined presentation by the Howard University College of Medicine, Freedmen's Hospital, and D. C. General Hospital

for their exhibit on "Pediatric Dermatology (Observations on Negro Infants and Children)." Mr. Robert F. Butts, Executive Director of SMA, presented each of the following co-exhibitors with a Certificate of Award: Dr. Roland B. Scott and Dr. Teoman Sarachi, of Howard University; Dr. Robert L. Baird and Dr. Thomas E. Reichelderfer, of D. C. General Hospital; Dr. Angella D. Ferguson and Dr. John A. Kenney, Jr., of Freedmen's Hospital.

The D. C. Medical Society withheld its own scientific assembly this year so the members could participate in the program and exhibits of the SMA. Two members were elected to office in the Sections of the Association. Dr. William J. Tobin was elected Chairman for 1967 of the Section on Orthopedic and Traumatic Surgery. Dr. William J. G. Davis was elected a member-at-large of the Section of Ophthalmology.

The 1967 meeting of SMA will be held in Miami Beach, Fla., November 13-16, 1967.

CORRECTION: In the October issue of the MEDICAL ANNALS it was reported that the 50th Anniversary Meeting of SMA was held in Washington when Dr. W. Ross Morris was President. This is not correct. At the previous meeting of the SMA in 1956 Dr. Ralph M. Caulk was President and gave the official welcome of the D. C. Medical Society.



NEWS & PERSONALS

Summary of Executive Board Actions

Proceedings of October 24 Meeting

Dinner for the members of the Executive Board was served at 6:30 p.m. in the Exhibit Hall of the D. C. Medical Society. Dr. J. Spencer Dryden, Chairman, presided at the meeting. Present were Drs. Robert J. Coffey, Karl C. Corley, Henry D. Ecker, Claudine M. Gay, Edward W. Nicklas, Lawrence A. Rapee, Paul R. Wilner, and Mr. George W. Cooley, Secretary. The meeting was called to order at 7:00 p.m.

The minutes of the October 3 meeting were approved as mailed, with the Secretary instructed to add Dr. Camalier's resolution re Senator Lister Hill as item 16D.

Committee Meetings: The following committee meetings were reported by the Secretary as having been held since the last Board meeting:

- October 7 Committee on Regional Medical Programs (P. L. 89-239)
- 10 Committee on Mental Health
- 12 Board of Credentials
- 14 Committee on Regional Medical Programs
- 17 Committee on Society Awards

Board of Credentials: On recommendation of the Board of Credentials, the following applicants for membership and changes in membership status were approved:

Active Members

William Ray DeCesare, Georgetown University Hospital
Robert A. Dietrich, 915 19th Street, N.W.
Morton C. Gluck, 2500 Que Street, N.W.
Robert L. Hackney, 635 M Street, N.E.
W. Raymond Mize, Jr., Washington Hospital Center
Louis F. Rittelmeyer, Jr., Georgetown University Hospital
Bezelle Thomas, 3328 Northampton Street, N.W.

Associate Members

Kenneth Ian Austin, Howard University College of Medicine

Miguel A. Cano Lluch, 1150 Varnum Street, N.E.
Clarence J. Coombs, 831 University Blvd. East, Silver Spring, Md.

Transfers

Active to Associate: George F. Miller
Associate to Active: Peter Y. Evans and Melvin W. Sandmeyer, Jr.
Resident-Intern to Associate: Frances E. Brennecke and Albert I. Holtz

Resignations

Associate: H. Wayne Glickfield, William H. Kessenich, Joseph C. McCarthy, Thomas J. Pekin, William F. Schmidt, and Celia White Tabor.

Annual Report of the Chairman of the Executive Board: The Secretary reviewed the items in the report to be acted upon at the Annual Business Meeting.

Use of the Building: The Secretary also reviewed policy and guidelines for the use of the building and for parking. Demands for use of the building have exceeded the staff's ability to meet them. More than 365 meetings have been held here during the first 10 months of 1966. It has been necessary, therefore, to establish use priorities and to eliminate use by some groups not related to medicine or medical care.

It was voted to establish priorities as a guide to the Executive Director in permitting use of the building, he to use his best judgment and to consult with the House and Building Fund Committee when necessary regarding modifications. The priority in allotting meeting space follows these general lines:

First, Society Boards, Councils and Committees. One hundred and thirty-five such meetings were scheduled the first 10 months of this year.

Second, Society Sections and the Woman's Auxiliary, with 33 meetings held to date.

Third, Specialty Societies, with 27 meetings to date.

Fourth, jointly sponsored scientific programs. This is a relatively new activity since the old headquarters were not really suitable for these meetings. So far 35 such programs have been scheduled, including meetings of from 1 to 3 days on Tuberculosis, Immunization, Salmonellosis, Viral Hepatitis, Control of Infections in Hospitals, and Civil Defense.

Fifth, Boards, Committees and Conferences of Allied Health Agencies. Again this is a new use of the Society headquarters, with approximately 137 such meetings scheduled the first 10 months.

There may well be exceptions, but generally this is the priority to be followed. Meetings should be scheduled far ahead of time since the schedule is generally full 2 months ahead and cancellation, even within this priority, is most difficult.

Parking in the Building: It was voted to approve the following as a guide for the Executive Director in reference to parking in the building. The 2 floors of parking space were built primarily for use by the Executive Board, Committees of the Society, members visiting the Society offices on business, officers and guest speakers of Sections, and for staff members (when not required for the first 4 groups). This purpose has been well served with adequate space available. The Executive Director is also authorized to use his judgment in providing parking for officers and guest speakers for meetings of other groups in the aforementioned priority list.

For any meeting or jointly scheduled meeting with an anticipated attendance of over 30, parking cannot be made generally available, even to members, except as noted above. One of the reasons for selecting this location was because over 400 members have offices within walking distance and therefore parking space. On Saturdays, Sundays, and evenings plenty of parking is available on 20th Street and Eye Street within a half block. For week-day meetings parking is usually available within a block and a half.

Society Awards: The Secretary reported that the nominees for Society Awards had still not been cleared with the Committee on Public Information and Education. He read the names of the suggested nominees. These nominations were approved subject to clearance by the Committee on Public Information and Education.

Report of the Secretary-Treasurer: The Secretary reviewed the Report briefly, pointing

out that each member should read it and let him have any comments before it was published. The report of the Secretary-Treasurer was accepted.

Proposed 1967 Budget: The proposed budget was reviewed in detail with the Secretary noting that a net loss in the General Fund of about \$1,000 was due primarily to the need to subsidize the *MEDICAL ANNALS* by about \$20,000. He recommended either a \$15 per year dues increase or a special assessment of \$100 to \$150. It was voted first to recommend a \$15 raise in dues to the membership and to summarize the reasons for this increase.

After discussion of the motions it was evident that the Executive Board should have more information so as to better explain to members the need for either a dues increase or a special assessment. There was also some question as to which was the more practical.

It was voted to rescind the vote to increase dues at this time and to instruct the Finance Committee to consider the financial condition of the Society and report back to the Executive Board as to the best method of maintaining a balanced budget. (Drs. Ecker, Dryden, Coffey and the Secretary were requested to consider this.)

Community Health Week: The Secretary reported on the success of this project and reviewed the activities planned and carried out. The President was requested to send letters of appreciation to those who participated.

Progress Report on P. L. 89-239: Dr. Coffey reported on the status of this planning application grant. The grant has the tentative approval of the National Advisory Council. The Committee has met with NIH representatives and the suggested alterations and additions have been included in the application. Dr. Thomas W. Mattingly had agreed to accept the position of Coördinator. The Board voted to approve the appointment of Dr. Mattingly as Program Director for the planning grant under P. L. 89-239 and to complete the new draft and resubmit it to NIH.

Consulting Editor for Medical Annals: Approval was given to the appointment of Dr. James Halsted, Associate Chief of Staff for Research and Education of the Veterans Administration Hospital, as a Consulting Editor of the *MEDICAL ANNALS*, replacing Dr. Kurland.

There being no further business, the meeting was adjourned.

Meetings

A seminar for the private practitioner of medicine on **Tuberculosis, A Community Program** will be held, February 23, in the Exhibit Hall of the Medical Society of the District of Columbia. This is the fourth in a series provided through the Communicable Disease Seminar Services Program of the Public Health Service. The meeting is sponsored by the District of Columbia Public Health Association in coöperation with the D. C. Medical Society, the Medico-Chirurgical Society of D. C., and the D. C. Department of Public Health.

The meeting will open at 1:30 p.m. with Dr. Albert Harden, Dean of Howard University College of Medicine, presiding. Three papers will be presented:

"Tuberculosis 1966-2000 A.D." by Dr. Sidney H. Dressler, Special Assistant Chief, Tuberculosis Branch, Communicable Disease Center, Atlanta, Ga.

"Chemoprophylaxis: Current Status" by Mrs. Shirley H. Ferebee, Associate Chief, Operations Research Section, Tuberculosis Branch, Public Health Service.

"Rational Therapy of Tuberculosis" by Dr. Raymond F. Corpe, Medical Superintendent, Battey Hospital, Rome, Ga.

Following these presentations there will be a Panel Discussion on Tuberculosis Control with Dr. Moe Weiss, Medical Director and Superintendent, Glenn Dale Hospital, as moderator. Dr. Harden will discuss the role of the medical school in TB control; Dr. James Mann, Associate Clinical Professor of Medicine, George Washington University, the role of the practicing physician; Dr. Robert Donohoe, Chairman of the Pulmonary Disease Division, D. C. General Hospital, the role of the hospital; and Mr. Raymond Taylor, Executive Director, D. C. Tuberculosis Association, the role of the Tuberculosis Association. There will be a period of questions and answers following the discussion.

Howard University College of Medicine is presenting a **Postgraduate Course, "Genetics in Medical Practice,"** January 26 and 27, at the College. Two all-day meetings are scheduled, with registration to open at 8:30 a.m., January 26; the program will begin at 9:00 a.m. There will be no registration fee; the course is supported by the U. S. Children's Bureau. Speakers, well-known experts in the field, will include Dr. Victor A. McKusick, Professor of Medicine, Dr. Barton

Childs, Professor of Pediatrics, and Dr. Howard W. Jones, Associate Professor of Gynecology and Obstetrics, all of Johns Hopkins University, and Dr. Park Gerald, Head of the Medical Genetics Division at Harvard Medical School. This is probably the first course of its kind in the Washington Metropolitan Area.

The American College of Cardiology will hold its **16th Annual Session**, February 15-19, at the Washington Hilton Hotel. There will be a panel discussion on "Controversies in Cardiology" with opposing views to be presented on such topical subjects as revascularization of the heart, prophylactic digitalization, long-acting nitrites, and polarizing solutions. A symposium on space medicine will focus on cardiovascular problems affecting both astronauts and aquanauts and the effects of prolonged travel in deep sea and outer space on the heart and blood vessels.

On Saturday evening, February 18, noted scientists from England, South Africa, and other countries will present short papers on "Contributions of International Cardiology."

There will be more than 50 luncheon panels and fireside conferences. Scientific clinics and demonstrations will be held at most of Washington's medical centers and at Federal hospitals and institutes. Complementing the session will be more than 150 technical and scientific exhibits.

Brig. General Archie A. Hoffman, MC, USAF, Commander of the USAF Hospital, Andrews Air Force Base, is General Chairman of the meeting. Further information may be secured from Mr. William D. Nelligan, Executive Director of the College, 9650 Rockville Pike, Washington, D. C. 20014.

The Georgetown University Medical Center, in coöperation with the D. C. Division of the American Cancer Society, will present a 1-day seminar on **"Clinical Applications of Advances in Cancer Research."** This seminar, which is open to all physicians, will be held on Saturday, March 11, 1967 at the Medical Center. The faculty will be composed of distinguished authorities in cancer management. Preregistration and a fee of \$5.00, which includes luncheon and an afternoon reception, will be required. Attendance will be limited and will be determined by priority of registration.

For further information contact the Division of Oncologic Surgery, Department of Surgery, Georgetown University School of Medicine, Washington, D. C. 20007.

The 44th Annual Meeting of the American Orthopsychiatric Association will be held at the Washington Hilton Hotel in Washington, March 20-23. Some 9,000 psychiatrists, psychologists, social workers, educators, anthropologists, nurses, lawyers, and other professionals will attend the 4-day meeting, which will be devoted to the basic clinical and social problems of vital concern to the mental health field. Non-members are welcome at the annual meeting as full participants.

A preliminary program is available by writing Marion Langer, Ph.D., Executive Secretary of the Association, 1790 Broadway, New York, N. Y. 10019 or to Dr. William Stark, co-chairman of local arrangements, 5415 Connecticut Avenue, N.W., Washington, D. C. 20015.

The 1967 National Medicolegal Symposium, jointly sponsored by the American Medical Association and the American Bar Association, will convene at Miami Beach, Fla., March 9-11. The meeting place will be the Fontainebleau Hotel. An attendance of 2,000 physicians and lawyers is expected.

Outstanding spokesmen for both professions will present information and opinion on 4 major subject areas. These are:

- Roadblocks in interprofessional communications
- The Physician as a client
- Legal rights of the mentally ill
- Legal therapy for health-care problems

Registration fee, which includes a reception and a copy of the proceedings, is \$30.00. Advance registration and additional information may be obtained by writing the Law Division of the AMA, 535 North Dearborn Street, Chicago, Ill. 60610.

General News

The Veterans Administration has created a **Nuclear Medicine Service** to coordinate the clinical uses of nuclear energy in VA hospitals. Under the direction of Dr. Richard E. Ogborn, the new service will systematize the use of radioisotopes to diagnose and treat some human diseases.

Dr. Ogborn, who assumed his new duties on October 31, was Chief of the Radioisotope Service at the Omaha (Nebraska) VA Hospital for 10

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years prior to his appointment as Chief of Staff of the Hospital in 1965.

A new booklet, prepared by the National Institute of Dental Research, describes cleft lip and cleft palate and the research on its causes and various forms of treatment. Single copies of **"Research Explores Cleft Palate"** can be obtained without charge from the Public Health Service, Washington, D. C. 20201.

The Medical Society's **Section on General Surgery** elected officers on December 7. They are:

Dr. James E. Boland, *Chairman*; Dr. Frank J. Sanzaro, *Vice Chairman*; Dr. Jerome W. Canter, *Secretary-Treasurer*; and Dr. Frederick Y. Donn and Jacob J. Weinstein, *members of the Executive Committee*.

The Section on Otolaryngology of the Medical Society of the District of Columbia elected the following officers for 1967:

Dr. Arnold S. Greenberg, *Chairman*; Dr. Joseph A. Sabri, *Vice Chairman*; Dr. Louis B. Balla, *Secretary*; and Dr. I. Sidney Jaffee, *Treasurer*.

Meetings are held the second Tuesday of November, January, March and May at 6:30 p.m. at the Kennedy-Warren Hotel.



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otitis media...**



and Gantanol Suspension is a good way to help them get well

proven effectiveness against major U.R.I. pathogens including beta-hemolytic strep

With Gantanol (sulfamethoxazole), bacteriologic conversion rates for beta-hemolytic streptococci are comparable to those generally seen with penicillin, and apparently superior to those cited in the literature for erythromycin and the broad-spectrum antibiotics.^{1,2} With conversion rates ranging from a high of 96% in 229 patients² and 98% in 96 cases³ to 65% in 105 cases,^{5,6} Gantanol (sulfamethoxazole) Suspension is an effective alternative therapy in patients sensitive to penicillin, the drug of choice in known beta-hemolytic streptococcal infections.

In addition to this effectiveness against beta-hemolytic streptococci,¹⁻⁹ bacteriologic conversion rates have averaged 69% for *D. pneumoniae* (103 of 150 patients),^{3,6,7} 78% for *H. influenzae* (42 of 54 patients),^{3,4,7} and 67% for *Staph. aureus* (76 of 113 patients).^{3,4,6,7} It is this wide spectrum of activity which makes Gantanol (sulfamethoxazole) Suspension a good choice in acute pharyngitis, tonsillitis and otitis media.

β-hemolytic strep



Staph. aureus



D. pneumoniae



H. influenzae



therapy generally uncomplicated by side effects

Over 8 out of 10 U.R.I. patients—87% of 2231 patients—showed an excellent to satisfactory clinical response to Gantanol (sulfamethoxazole).¹⁻¹³ Such favorable results are even more meaningful in view of the fact that only 1.1% of the more than 2000 cases cited discontinued therapy because of side effects. Of the total side effects reported (4.6%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.¹⁻¹³

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Dosage: *Children*—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. *Adults*—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

How Supplied: Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

References: 1. Braden, B.; Colmore, J. P., and Cummings, M. M.: *Antimicrobial Agents Annual*—1960, p. 54. 2. Alban, J.: *Am. J. Dis. Child.*, 109:304, 1965. 3. Elia, J. C.: *Eye Ear Nose & Throat Month.*, 41:722, 1962. 4. Carter, C. H.: *Clin. Med.*, 71:1571, 1964. 5. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med.*, 44:246, 1963. 6. Reichelderfer, T. E.: *Clin. Med.*, 71:1045, 1964. 7. Peters, J. H.: Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 8. Peters, J. H.: *Antimicrobial Agents and Chemotherapy*—1961, p. 406. 9. Braden, B., and Colmore, J. P.: *J. Oklahoma M. A.*, 57:7, 1964. 10. Chastain, P. J.: *J. Florida M. A.*, 48:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother.*, 12:450, 1962. 12. Exline, A. L.: *Colorado GP*, 5:(5), 11, 1963. 13. Patton, J. M.: *West. Med.*, 5:46, 1964.

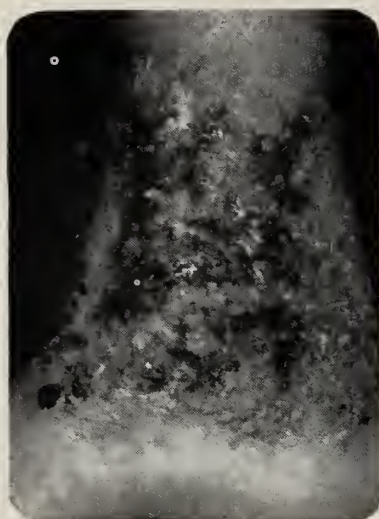
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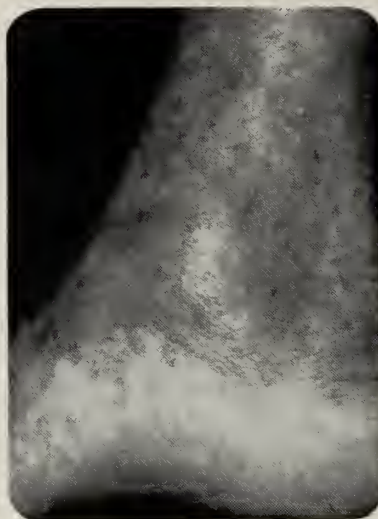


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The D. C. Association of Medical Assistants installed their officers for 1967 on December 14 during a ceremony and dinner at Blackie's House of Beef. The new officers (with their physician-employers in parentheses) are the following:

President: Miss Gail Thornburg (Drs. Kleh, Gruver, Tralka and White)

President-elect: Miss Suzanne Earley (Dr. Harold Silver)

Vice President: Mrs. Jacqueline Blevins (Drs. Horstmann and Swift)

Secretary: Miss Judy Shipe (Dr. John M. Keshishian)

Treasurer: Miss Mary Weimer (Dr. Ray Brown)

Dr. Samuel Dodek was elected to the Advisory Committee, which includes Dr. Julius Fogel, Dr. John R. Ewan, and Mr. George W. Cooley.

Personals

Dr. Vernon E. Martens, Director of Laboratories at the Washington Hospital Center, was honored as **Clinical Scientist of the Year**, November 12, by the Association of Clinical Scientists at its annual dinner at the International Inn. This distinguished award is given annually to an investigator who has "demonstrated outstanding zeal in the pursuit of clinical science." Dr. Martens addressed the dinner guests on the subject, "Grapes of Wrath."

Dr. Martens' present position followed a distinguished career in the U. S. Navy, from which he retired with the rank of Captain. As Associate Clinical Professor of Pathology at George Washington University and during his Naval appointments, he conducted extensive research programs in general and clinical pathology and has published many papers in this field. He is a graduate of St. Louis University School of Medicine.

Dr. Harold J. Jeghers, former Chairman and Professor of the Department of Medicine of the New Jersey College of Medicine (formerly Seton Hall College of Medicine) has been named Medical Director of Saint Vincent Hospital in Worcester, Mass. He assumed his post on October 1. His responsibilities will be concerned with the professional aspects of the Hospital as regards

quality of patient care, medical education and research.

Dr. Jeghers was Professor and Director of the Department of Medicine at Georgetown University School of Medicine from 1946 to 1956. His appointments have included many positions at both Boston University School of Medicine and Georgetown. As consultant to Saint Vincent Hospital he played a prominent role in establishing its educational program for interns and residents when the Hospital became affiliated with Georgetown.

Since leaving Washington Dr. Jeghers has continued his affiliation with the D. C. Medical Society as an Associate member.

Dr. William H. Stewart, Surgeon General of the Public Health Service, an Honorary member of the D. C. Medical Society, is the new President-elect of the Association of Military Surgeons. He will take office when the Association holds its next Annual Meeting, November 19-22, 1967, in Washington. Brig. General James H. Kidder, AUS (Ret.), is serving as President during 1967.

Dr. Milton M. Greenberg and **Dr. W. Dabney Jarman** were elected to the Board of Directors of Children's Hospital at the 95th Annual Meeting of the corporate members of the Hospital on December 5. Dr. Greenberg has been Chairman of the Hospital's Medical Staff since 1964. Dr. Jarman is a member of the Senior Attending Staff and Chief of the Department of Urology.

Dr. Robert J. Coffey, Professor and Chairman of the Department of Surgery at Georgetown University School of Medicine, was one of 5 Governors of the College elected at the October meeting to serve on the 1966-67 Nominating Committee. This committee makes nominations for the Board of Regents and for officers of the Board of Governors. Dr. Coffey will serve as Chairman of the committee.

Dr. Jacob J. Weinstein was reelected to the Board of Governors, representing the District of Columbia, at the Annual Meeting of the American College of Gastroenterology, October 24, 1966, in Philadelphia.

Obituaries

Gervase James Patterson Barger, M.D. (1882-1966)

DR. GERVASE J. P. BARGER, a Life member and an Active member of the D. C. Medical Society for over 30 years, died on November 25, 1966, at the age of 84, in the Memorial Home Community, Penney Farms, Florida, where he had resided since his retirement from medical practice at the end of 1962.

Dr. Barger was born in Muscatine, Iowa, March 3, 1882. He received his medical degree from George Washington University School of Medicine in June, 1914, and after graduate study in tropical medicine at Harvard University, he spent 15 years as a medical missionary in the Congo. Returning to the United States in 1931, he took up a residency in physical medicine at Presbyterian Medical Center in New York City. He established his practice in Washington, D. C. in February, 1932, specializing in physical medicine.

He was a diplomate in physical medicine and a charter member of the American Congress of Physical Medicine and Rehabilitation. In 1950 he was presented with a plaque honoring his many years of service as Chairman of the D. C. Chapter of the American Congress of Physical Medicine.

From 1937 to 1946 he was in charge of the physical therapy department at Georgetown University School of Medicine. In 1947 he was a member of the Yater Clinic. He was a founder and charter member of the American Blood Irradiation Society, and he prepared scientific exhibits of research in that field for many medical conventions.

Among his hobbies were hiking, folk and square dancing, and genealogy. He plotted the elevation of the Appalachian Trail from Harrisburg, Pennsylvania to Waynesboro, Virginia for the Potomac Appalachian Trail Club, of which he was an honorary life member.

He is survived by his wife, Mrs. Myrtle Grace King Barger; 2 daughters, Mrs. Wenona Diggle and Mrs. Erva Zuckerman; 2 sons, Ben and Rex; and 4 sisters, Mrs. Rhoda Roberts and Vera, Esta and Ethel Barger.

BEN BARGER

Bernard Lauriston Hardin, Jr., **B.A., M.D.**

(1902-1966)

DR. B. LAURISTON HARDIN, JR., who practiced internal medicine in the District of Columbia for more than 30 years, died, October 31, 1966, at his farm, Eagle Point, at Chestertown, Md. He lived at 3028 P Street, N. W.

Dr. Hardin, a Washingtonian, was born, October 28, 1902, to Dr. Bernard L. Hardin, Sr., also a member of the D. C. Medical Society, and Mrs. Rosalie Scott Hardin. His early education was obtained in the public schools of the District. He received his B.A. degree from Yale University in 1925 and his medical degree from Johns Hopkins University in 1929. He interned at Presbyterian Hospital in New York City from 1930 to 1932.

Dr. Hardin was a Clinical Instructor in Medicine at George Washington University from 1932 to 1940, when he was appointed Associate in Medicine. Except for 2 years, he held this position until he resigned in 1956. He was on the staff of old Emergency Hospital from 1932 until it merged into the Washington Hospital Center in 1958.

After he retired from active practice in 1962 he served as medical adviser to the International Bank for Reconstruction and Development, the Washington Branch of the International Business Machines Corp., and the National Savings and Trust Company.

Dr. Hardin was an Active member of the Medical Society of the District of Columbia from 1932 until 1965. He was certified by the American Board of Internal Medicine. He was a member of the Osler Society and the Chevy Chase Club.

Surviving him are his wife, Mrs. Doreas Hull Hardin; 2 sons, B. Lauriston Hardin III, of Bethesda, Md., and Edward Hull Hardin; a daughter, Mrs. O. Mallory Walker, Jr., of Washington, and a brother, Taylor Scott Hardin, of Upperville, Va.

Frank M. Trozzo, Jr., B.A., M.D.

(1926-1966)

DR. FRANK M. TROZZO, JR. an Associate member of the D. C. Medical Society, died, October 20, 1966, at his home at 4012 Van Buren Street, Hyattsville, Md.

Dr. Trozzo was born in Rillton, Pa., April 16, 1926 to Frank and Ellen Trozzo. He served with

the U. S. Army forces in Austria from 1944 to 1946 and was awarded a Certificate of Commendation by General Mark W. Clark.

After his Army service he enrolled for study at St. Vincent's College, Latrobe, Pa., graduating in 1950. He continued his studies at Georgetown University and graduated in medicine in 1954. He then spent a year each as intern and resident in medicine at Georgetown University Hospital.

He was on the staff of Prince Georges and Providence Hospitals and had been Director of the Arthritis Clinic at Providence until last year.

He was an Active member of the Prince George's County Medical Society and an Associate member of the D. C. Medical Society, having transferred from Active to Associate membership in 1961. He was a member of the American Medical Association, the Arthritis and Rheumatism Foundation, the Providence Hospital Alumni Association, and the Georgetown Clinical Society.

Surviving him are his wife, Mrs. Eleanor Ference Trozzo; 4 sons, Stephen, David, Thomas and Frank, Jr.; and 3 daughters, Mary Ellen, Theresa and Phyllis. His mother also survives him together with 2 sisters, Mrs. Melvin Long, of Rockville, Md., and Mrs. Thomas Rouse, of Potomac, Md.

John Philip Clum, A.B., M.D.

(1910-1966)

DR. JOHN P. CLUM, an Associate member of the D. C. Medical Society since 1945, died, October 2, 1966, at Prince George's County General Hospital.

Dr. Clum was born in Kensington, Md., August 30, 1910. He received both his baccalaureate and medical degrees from George Washington University, the latter in 1937. He interned at Garfield Memorial Hospital (now a part of the Washington Hospital Center) during the following year. Since that time he had been a general practitioner in Hyattsville, Md.

In addition to his membership in the D. C. Medical Society, he was a member of the American Medical Association, the American Academy of General Practice, the Medical & Chirurgical Faculty of Maryland, and the Prince George's County Medical Society.

Surviving him are his wife, Mrs. Katharine Clum, a son, J. Peter, and a daughter, Katharine

M., all of the home address, 6110 43rd Avenue, Hyattsville, Md.

Premarital Counseling--Pearson

(Continued from page 2)

Abortion, therapeutic or otherwise, is another alternative which is invariably considered. Some families and patients will accept no other solution. If psychiatric indications for therapeutic abortion cannot be met, they will seek illegal channels elsewhere. Suffice it to say that the goal of the doctor-counselor should be to aid the family in choosing the alternative which will least harm the individual physically and psychically.

The inexperienced physician-friend should avoid involvement in the problem of the premaritally pregnant. Many counseling hours may be needed in arriving at the best possible decision. It may never be attained if the family has a preconceived opinion as to the proper solution. It would be best if the individual were promptly referred to competent counselors without the family friend first offering an opinion as to the proper course to be followed.

Conclusions

Marriage counseling may be divided for consideration into premarital, or prophylactic, and postmarital, or therapeutic counseling.

A practical outline for a premarital consultation has been presented for interested physicians.

In counseling the premaritally pregnant girl or woman, the doctor should help in deciding the course of action which will least harm her psychically and physically. The inexperienced physician-friend should avoid involvement in the problem of the premaritally pregnant.

References

1. STOKES, W. R.: *Modern Pattern for Marriage*. New York: Rinehart, 1948, p. 47.
2. McHUGH, G.: *Marriage Counselor's Manual*. Durham, N. C.: Family Life Publications, 1950.
3. FLOWERS, C. E., JR.: Premarital examination and counseling. *Obstet. Gynec. (NY)*, 1962, **20**, 143.
4. PEARSON, J. W., JR.: The Physician's role in premarriage counseling. *Amer. J. Obstet. Gynec.*, 1956, **71**, 363.
5. BURCHINAL, L. G.: Trends and prospects for young marriages in the United States. *J. Marriage & Family*, 1965, **27**, 243.

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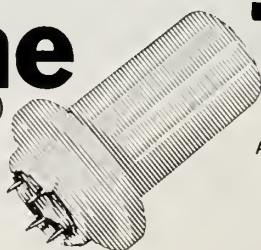
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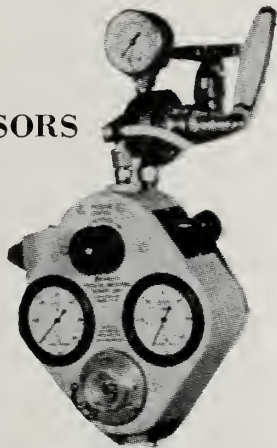
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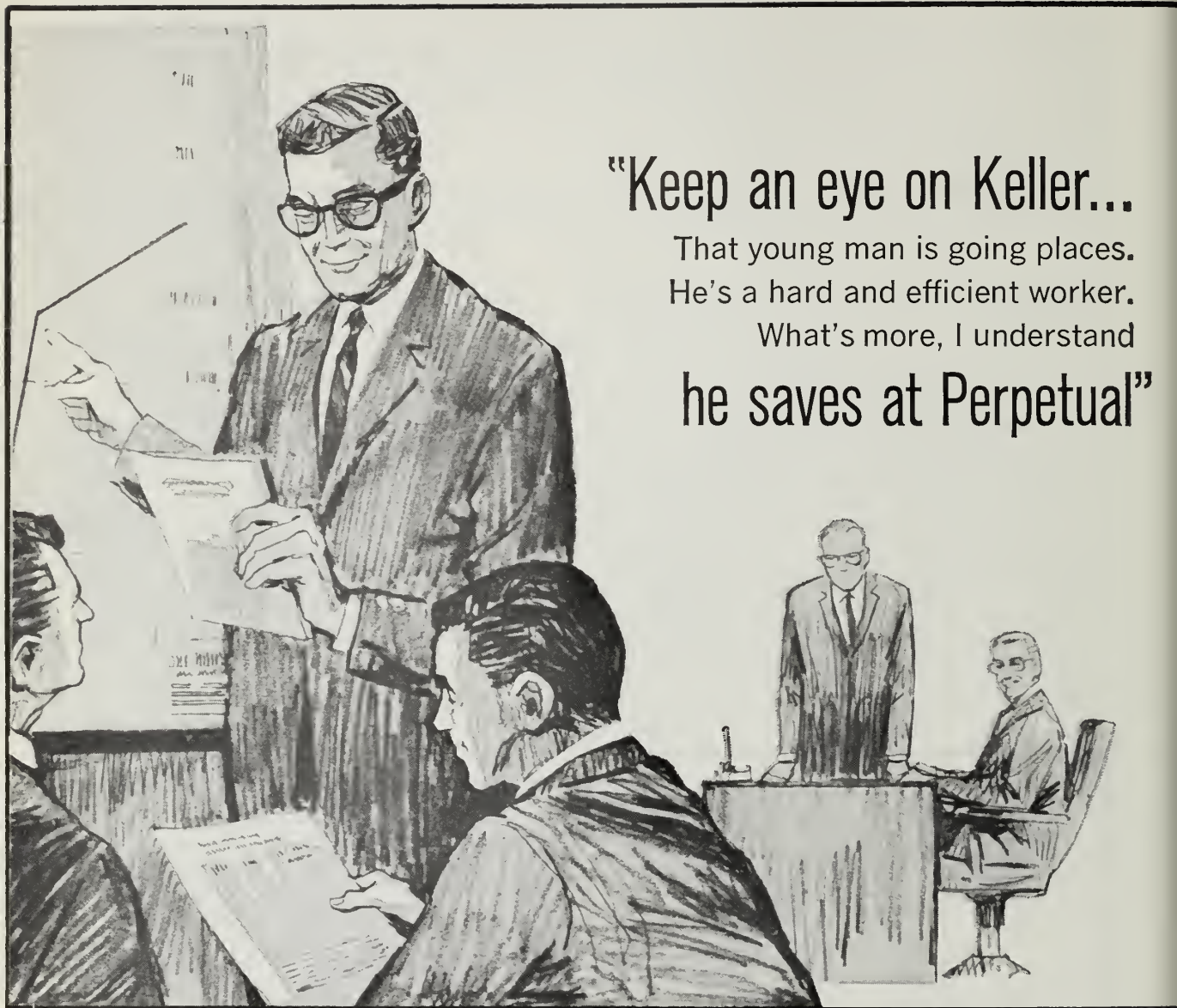
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Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

References: 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. 2. Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.

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WARNING: Overdosage produces anticholinergic side effects. Although the animal reproduction studies are negative, until there is clinical confirmation of safety in pregnancy, this product should not be used in women who may become pregnant unless in the opinion of the physician the benefits outweigh the risks.

PRECAUTIONS: Use only with caution in patients with certain types of cardiovascular disease, since anticholinergic drugs may cause arrhythmias. Extensive clinical studies of TREST have shown no evidence of glaucoma. However, the possibility exists that it can occur since it has been reported as a characteristic side effect of anticholinergic drugs. This product does not replace definitive treatment in organic gastrointestinal disease.

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DOSAGE: The usual adult dosage is 1 mg. by mouth three times daily. If necessary, the dose may be increased to 2 mg. three times daily. Pediatric dosage has not been determined.

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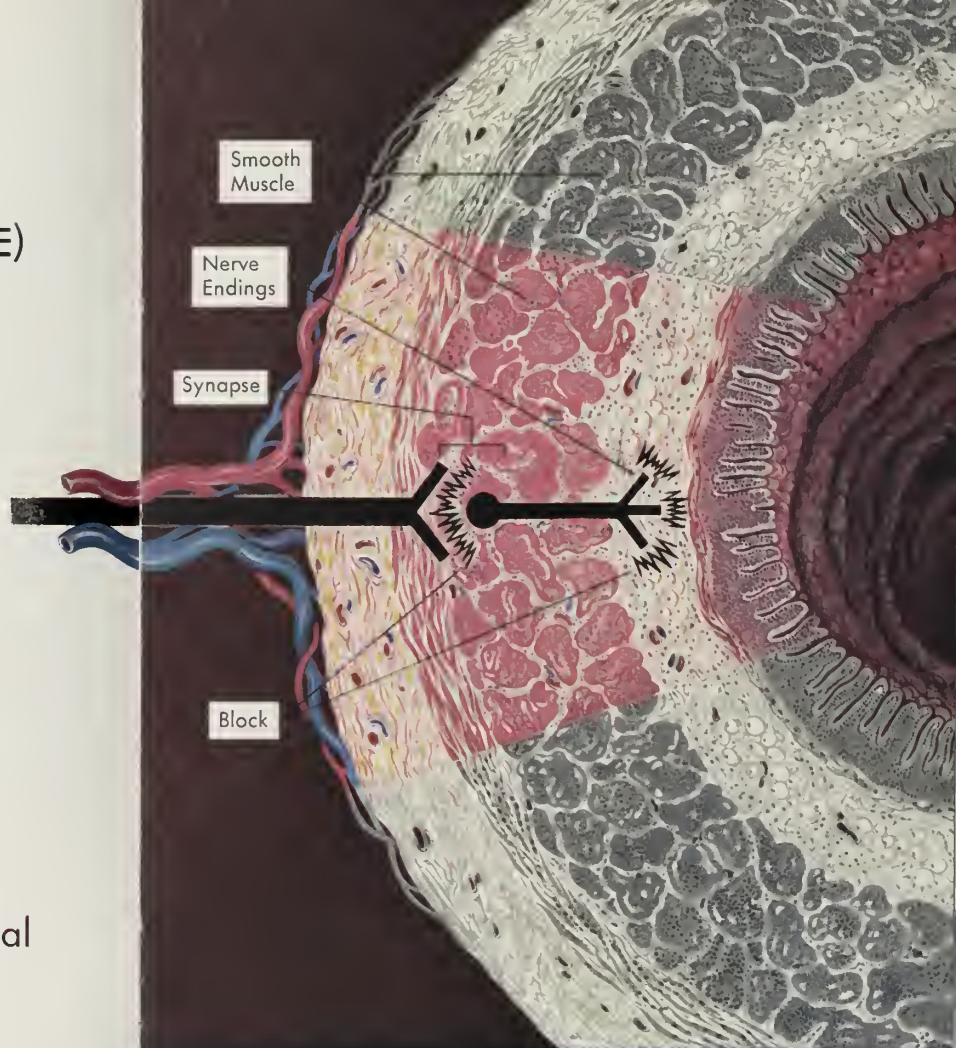
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parasympathetic nerve

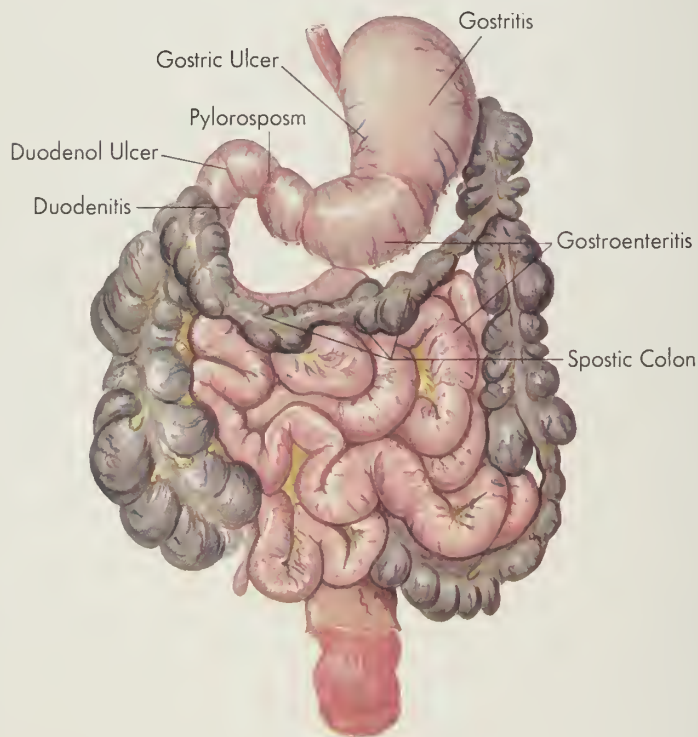
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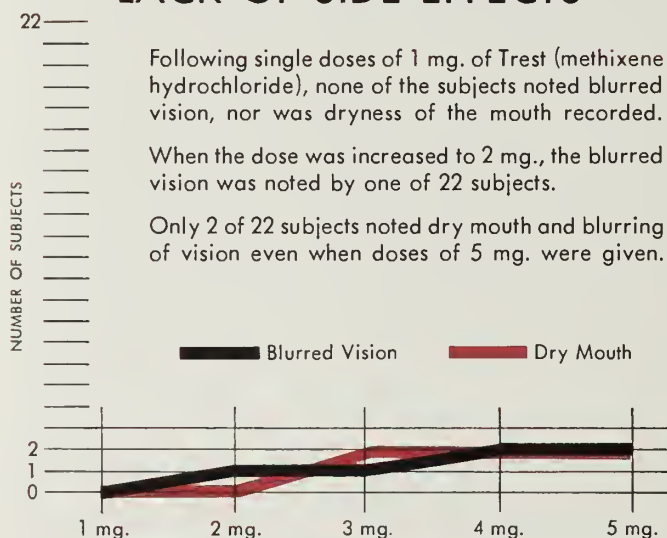
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Clin. Med. 72:1313-1316
(Aug.) 1965.

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February 1967

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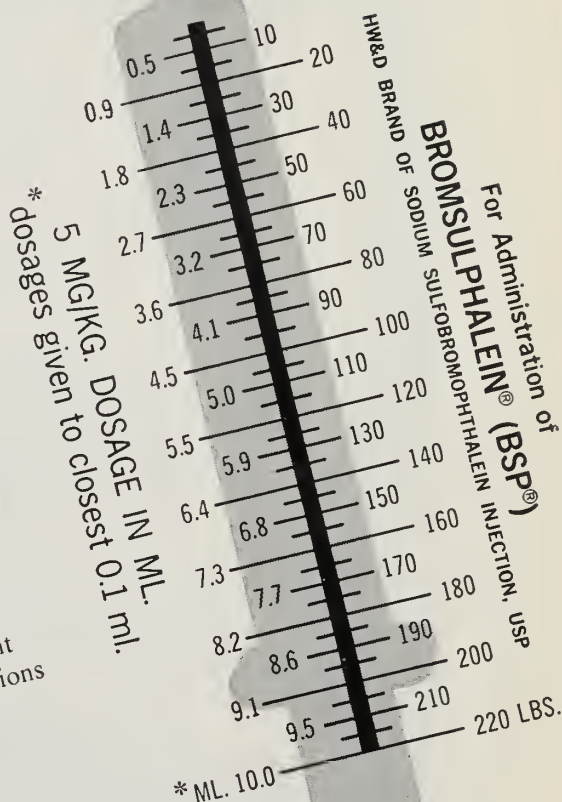
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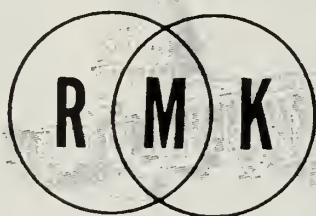
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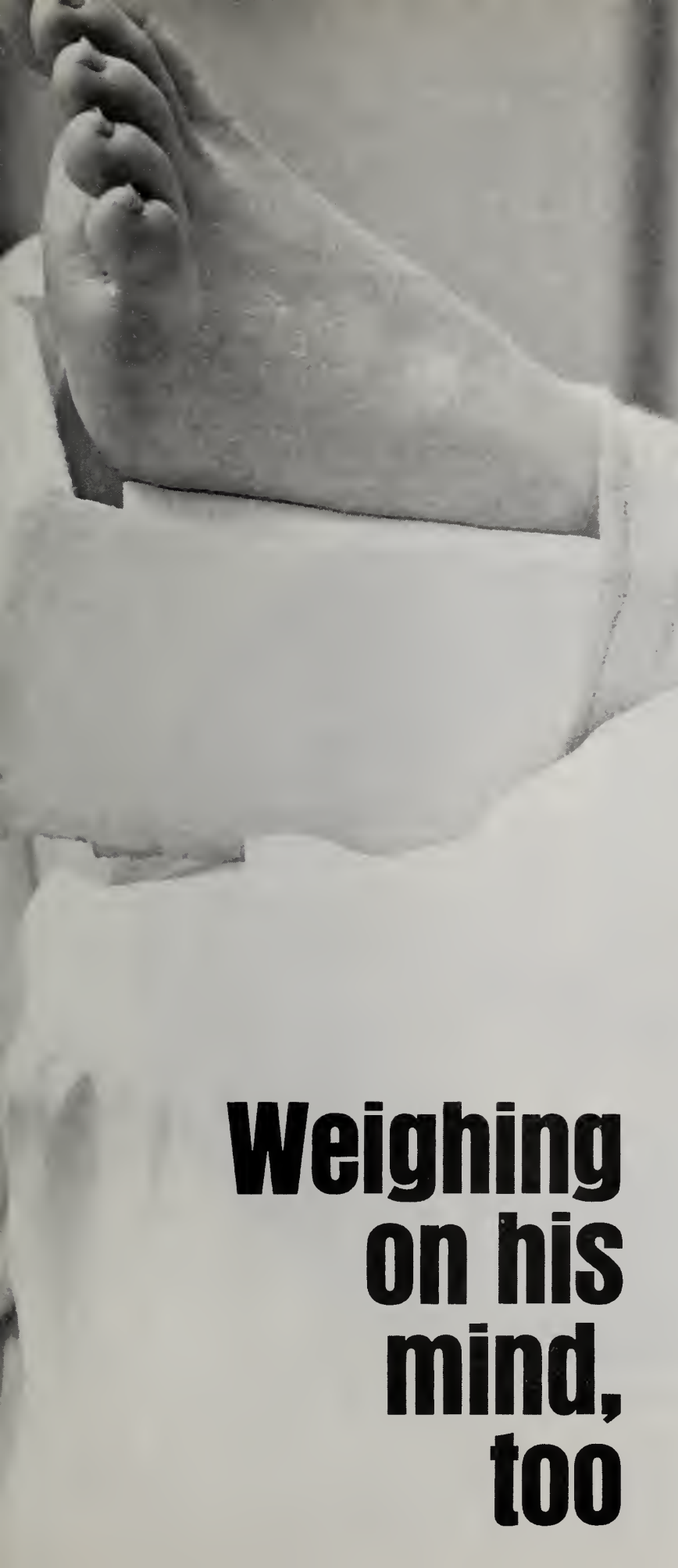
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March 10-12: American Association of Pathologists and Bacteriologists. Sheraton-Park Hotel, Washington. Address: Dr. J. Lowell Orbison, University of Rochester School of Medicine and Dentistry, 260 Crittenden Blvd., Rochester, N. Y. 14620.

March 12-15: International Academy of Pathology. Sheraton Park Hotel, Washington. Address: Dr. F. K. Mostofi, Secretary-Treasurer, Armed Forces Institute of Pathology, Washington, D. C. 20305.

March 12-15: 35th Annual Postgraduate Clinic of the District of Columbia Dental Society. Shoreham Hotel, Washington. Address: Ashur G. Chavoor, D.D.S., General Chairman, D. C. Dental Society, 1835 Eye Street, N.W., Washington, D. C. 20006.

March 16-18: Southern Society of Anesthesiologists. Fort Sumter Hotel, Charleston, S. C. Address: Dr. John B. Parmley, Secretary-Treasurer, Hotel Dieu, Sisters Hospital, New Orleans, La. 70160.

March 20-23: Southeastern Surgical Congress. Americana Hotel, Bal Harbour, Fla. Address: Dr. A. H. Letton, Executive Secretary, 340 Boulevard, N.E., Atlanta, Ga. 30312.

March 20-23: American Orthopsychiatric Association (44th Annual Meeting). Washington Hilton Hotel, Washington. Address: Dr. William Stark, Co-chairman of Local Arrangements, 5415 Connecticut Avenue, N.W., Washington, D. C. 20015.

March 28-31: American College Health Association. Mayflower Hotel, Washington. Address: Mr. Lee D. Stauffer, Executive Secretary, P. O. Box 9117, University of Miami Branch, Coral Gables, Fla. 33124.

April 3-7: Annual Spring Congress in Ophthalmology, Otolaryngology and Allied Specialties, Gill Memorial Eye, Ear and Throat Hospital. Hotel Roanoke and Motor Inn, Roanoke. Address: Superintendent, Box 1789, Roanoke, Va. 24008.

April 10-13: Aerospace Medical Association. The Washington Hilton Hotel, Washington. Address: Dr. William J. Kennard, Executive Secretary, Washington National Airport, Washington, D. C. 20001.

April 17-20: American College of Obstetricians and Gynecologists, Fifteenth Annual Clinical Meeting. Washington Hilton Hotel, Washington. Address: Dr. Harold A. Kaminetsky, Secretary, 79 West Monroe Street, Chicago, Ill. 60603.

April 24-26: National Congress on Environmental Health Management. Hotel Americana, New York. Address: Department of Environmental Health, American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610.

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winter 1966

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this issue: the nose as a shock organ

the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.¹

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.²

Nasal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.³ The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.⁴ The cilia then sweep the particu-



late matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.⁵

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.⁶ The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.

While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.⁷ The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hyperplasia of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.⁸

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.⁹ In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.¹⁰ The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.¹¹ The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

(concluded on following page)

it's a
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Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. **Precautions:** The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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precipitate an attack of rhinorrhea in hay fever sufferers.¹² Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.

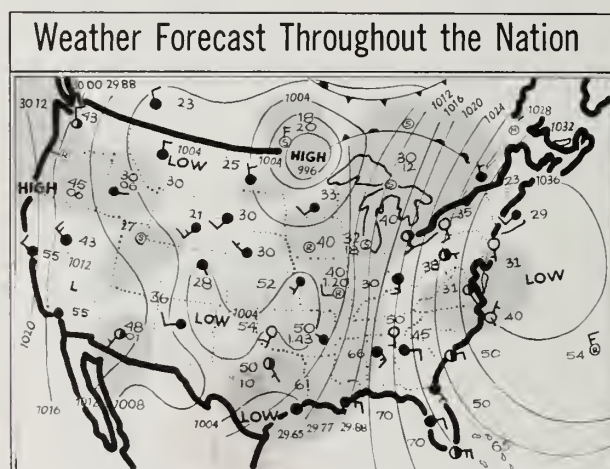


The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.¹³ This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections, antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases,

symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

- ### References
1. Maures, E. R., Mendez, F. C., Jr., and Hilsinger, R. C.: Importance of the Nose in Filtering and Humidifying Inspired Air. *Ohio State Med. J.* 61:41-42.
 2. Holmes, T., Goodell H., Wolf, S., and Wolff, H. G.: *The Nose*. Springfield, Ill. 1950 Charles C. Thomas p. 10 ff. 3. Boies, L. H. R.: *Fundamentals of Otolaryngology*. Phila. W. B. Saunders Co. 1954 p. 160.
 4. Proetz, A. W.: *Applied Physiology of the Nose*. St. Louis 1941 Zimmerman-Petty Co. p. 6.
 5. Spikard, A.: *The Common Cold*, A Survey. *Disease of the Chest* 48:545-49. Nov. 1965.
 6. Ibid.
 7. Bourdial, J.: Role of Allergy in Upper Respiratory Tract Infection. *Europa Med. Paris* 4:75-80 1965.
 8. Holmes, et al. *The Nose* p. 22.
 9. Ibid. p. 320.
 10. Proetz, A. W. op. cit. p. 321.
 11. Ibid. p. 320.
 12. Rees, Linford J.: *Physiogenic and Psychogenic Factors in Vasomotor Rhinitis*. *J. Psychosomatic Research* 8:101 Sept. 1964.
 13. Horeish, A. J.: *Allergy and Infection*. *An Allergy* 23:621-35 Dec. 1965.



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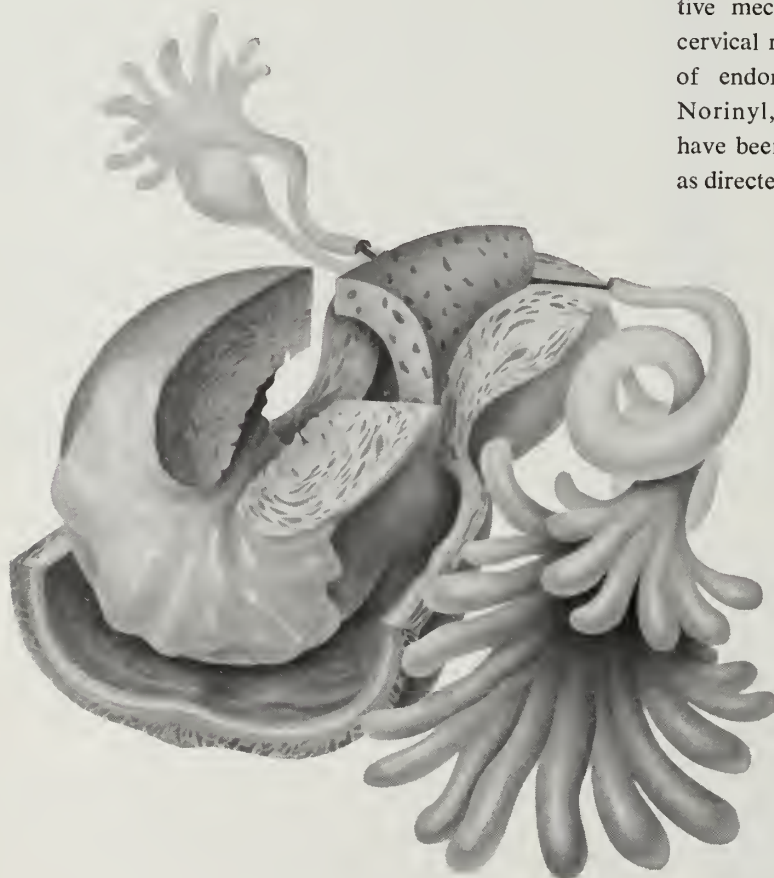
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NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

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References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Brivans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: Appl Ther 6:427 (May) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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BOOK REVIEWS

Current Practice in Orthopaedic Surgery 1966, Volume 3. Edited by JOHN P. ADAMS, B.S., M.D., F.A.C.S. Price, \$18.75. Pp. 276, illustrated. St. Louis: Mosby, 1966.

The third volume of this series presents a group of selected papers on topics of interest to orthopedic surgeons at all levels of experience. A wide variety of subjects is covered, each article having been written by a recognized authority. The articles in this volume are not simple rewritings of previous publications; the authors have presented their ideas and suggestions in less formal and more readable style than usually found in journal articles. The quality is uniformly good, as in previous volumes edited by Dr. Adams.

This volume includes 2 pleasant historical essays, papers on hip fractures, problems of lumbar discs, digital transposition, tibia vara, and a welcome atlas of muscle testing in the upper extremity. The 4 excellent papers on aspects of cerebral palsy reflect the increasing prominence of this problem in children's orthopedics. The emphasis in this section is in keeping with the title of the book and is definitely surgical. The section devoted to hip problems in cerebral palsy is especially well written and illustrated.

There is something in this volume which will please and interest most orthopedic surgeons regardless of their own special interests. The price of the volume may keep it off some residents' book shelves, but the book can be well recommended for orthopedists and also pediatricians who treat patients with cerebral palsy.

MYRON KOCH, M.D.

Epilepsy and the Law. A Report on Legal Reform in the Light of Medical Progress, revised 2nd ed. ROSCOE L. BARROW AND HOWARD D. FABING, M.D. Price (paper), \$5.95. Pp. 174. New York: Harper & Row (Hoebner Med. Div.), 1966.

This is a revision of the first edition, published in 1956, which exposed the archaic laws relating to epilepsy and proposed reform. In this connection the Honorable Earl Warren, Chief Justice of the United States, recently wrote, "Epilepsy and the Law" probably caused more legislatures to amend more laws in a shorter period of time than any similar research project of the past 2 decades." (*University of Chicago Law Review*, Volume 34, Spring 1955)

Thus the reason for the present edition is to bring into proper perspective the present laws still existing and once again to make proposed changes. It primarily covers the Eugenic Marriage Laws, Eugenic Sterilization Laws, Drivers' License Laws, Encouragement of Employment of Handicapped Laws, as well as miscellaneous laws affecting epileptics. Constantly emphasized is the point that medical progress with anticonvulsant therapy has acted as a legal catalyst causing legal change. It cites the statistics that with these compounds seizures can be controlled in 50 per cent of cases and re-

duced in severity and frequency to a level permitting rehabilitation of the patient in 30 per cent more. Even in states which still had archaic legislations, it essentially was never acted on (especially regarding marriage and sterilization); however, the very fact that it was carried in the books added to the stigma of epilepsy, thus impeding rehabilitation.

Apparently, the main avenue which is still blocked concerns employment of the handicapped. This is discussed first from the standpoint of getting employed and getting covered by Workmen's Compensation. Highly exemplary is the Ohio Statute of Encouragement of Employment of the Handicapped which has a special fund to cover injuries related to preemployment illnesses.

In summation, this is a small, easily readable book with which every physician who handles epileptics should be acquainted. The cost of this paperback is quite reasonable considering the amount of work involved in just gathering the statistical background for the material presented. Hopefully, it will provide further impetus to state legislatures for even greater reform governing rehabilitation of epileptics and removal of unnecessary legal stigma.

GEORGE J. LUCAS, M.D.

Questions and Answers in Orthopaedics. For Students, Interns, Residents, and Board Aspirants. FLOYD G. GOODMAN, B.S., M.D., AND GEORGE R. SCHOEDINGER III, B.S., M.D. Price, \$9.85. Pp. 244. St. Louis: Mosby, 1966.

This book comprises 1,500 questions and answers, divided in 11 sections, covering subjects included in the Intraining Examination: Trauma, Children and Adult Orthopaedics, Biochemistry, Surgery, etc. Five different types of questions are used in the book: single choice, multiple choice, situation and progressive thought, true or false, and list. All questions are answered at the end of the book, and a specific reference book or journal is included. The questions are very well chosen and are of practical and academic interest; they represent a very extensive bibliographic review of the most commonly used books and journals. For example, the *Journal of Bone and Joint Surgery* is comprehensively reviewed through the 1964 volume and a part of 1965.

A minor criticism is that questions are numbered according to the medical sections, which sometimes makes it difficult to readily find the answers; a better arrangement might have been to number the 1,500 questions consecutively and not by sections.

This book is highly recommended for interns, residents and board aspirants in orthopedics; it should prove especially valuable to those planning to take the examination who are not familiar with the different types of questions used in this book.

RUBEN D. CABRERA, M.D.

(Continued on page 31)

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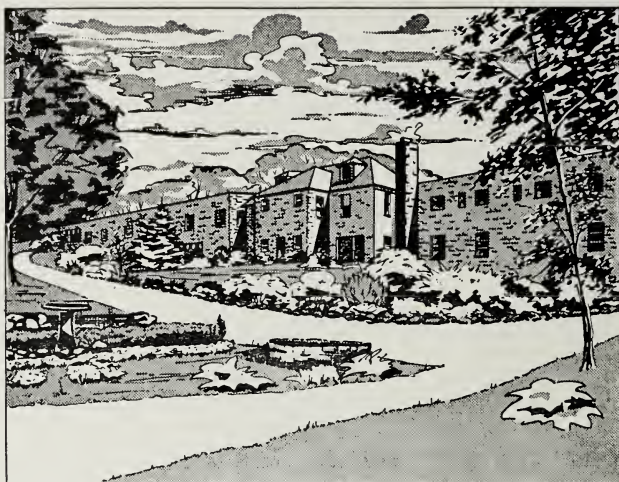
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Obesity Oddities

FACT & LEGEND



**NAPOLEON
BONAPARTE**

**LOST THE BATTLE OF WATERLOO
BECAUSE HE WAS TOO FAT!**

ACCORDING TO THE NEW YORK TIMES OF APRIL 13, 1890, THE DEFEAT OCCURRED BECAUSE HE FAILED TO CHECK HIS INTELLIGENCE INFORMATION. "IT WAS A MATTER OF MERE INDOLENCE AND THIS INDOLENCE WAS CAUSED BY FAT."

SOURCE: JAMA 186:65 (OCT. 5) 1963.



GALLSTONES HAVE BEEN FOUND IN 60% OF PATIENTS WHO WEIGH MORE THAN 300 POUNDS, 45% HAVE DIABETES, AND 15-TO-20% HAVE HIGH BLOOD PRESSURE.

SOURCE: DUNCAN, G.G.; SCIENCE NEWS LETTER, 83-403 (JUNE 29) 1963.



**DIET
DROPOUTS**

ACCORDING TO DRs. SHIPMAN AND PLESSET "APPARENTLY NO DIETER SUCCEEDS WHO IS VERY ANXIOUS OR DEPRESSED."

THE AMBAR FORMULA PROVIDES METHAMPHETAMINE TO HELP ELEVATE THE MOOD AND PHENOBARBITAL TO HELP REDUCE ANXIETY.

*SOURCE: ARCHIVES OF GENERAL PSYCHIATRY 8.26 (JUNE 1963).



THE BOOK "PRAY YOUR WEIGHT AWAY" URGES READERS TO "ASK GOD TO HELP YOU LIKE EXERCISE" FOR 15 MINUTES A DAY.

SOURCE: REV. C.W. SHEDD; NEW YORK: LIPPINCOTT, 1959.

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methamphetamine HCl 15 mg.,
phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming)

chloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY—Indications: Ambar suppresses appetite and helps offset emotional reactions to dieting. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension.

Contraindications: Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.

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**up to 10-12 hours clear
breathing on one tablet**

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Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy. **Precautions:** Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. **Side Effects:** Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.

Dosage: 1 Extentab morning and evening. **Supplied:** Bottles of 100 and 500.

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Book Reviews

(Continued from page 24)

Sudden Death in Infants. Proceedings of the Conference on Causes of Sudden Death in Infants, September 1963, Seattle, Washington. Edited by RALPH J. WEDGWOOD, M.D., AND EARL P. BENDITT, M.D.; WANDA M. BURNETT, Technical Editor. PHS Publication No. 1412. Price (paper), \$1.75. Pp. 165, illustrated. Washington, D. C. 20402: Superintendent of Documents, U. S. Government Printing Office, 1966.

Anyone who has practiced pediatrics or general medicine has had first-hand knowledge of sudden unexpected deaths in infants. This can be a most perplexing problem to the physician and family.

Under the direction of Drs. R. J. Wedgwood and Earl Benditt, from the Departments of Pediatrics and Pathology at the University of Washington School of Medicine, Seattle, Washington, and with the support of the National Institute of Child Health and Human Development of the National Institutes of Health, a conference was held in September 1963 on the causes of sudden death in infants. The technical editor of this book is Wanda M. Burnett.

There are some excellent discussions in these proceedings, especially the chapters on Viral and Antibody Studies on Cases of Sudden Death in Infants; the chapter on The Response of Young Infants to Viral Infections is also particularly good. There is an excellent bibliography. The editors admit that the epidemiological data are scanty. Among some of the findings, as stated in the proceedings, were the following:

- Not enough is known about pulmonary physiology and cardiopulmonary responses in the very young infant.

- Frequently one finds cow's milk antigen in the lungs of children who die with this syndrome.

- It is suggested that the second, third and fourth month of life may be a transition period during which the infant is more vulnerable to infectious diseases than he is shortly after birth.

- There was also discussion of the probability that this syndrome may represent a response to viral infection during the period of incubation.

It is very important that this phenomenon of sudden death in infants receive close medical and public health attention. The gathering of these outstanding scientists serves a most useful purpose in this regard.

The National Institute of Child Health and Human Development is following through on some of the recommendations in this study and are now funding several university follow-up studies.

It is hoped that future symposia, projects, etc., shall

also include more people in the epidemiological field as well as the pediatrician and the pathologist.

PATRICK J. DOYLE, M.D.

Dynamics of Development: Euthenic Pediatrics. DOROTHY V. WHIPPLE, M.D. Price, \$15.00. Pp. 648, with illustrations. New York: McGraw-Hill (Blakiston Div.), 1966.

"Euthenic Pediatrics" is a medical textbook with 2 major parts. It deals initially with the details of physical growth; the second half discusses the development of qualities which lead to a mature human being.

Euthenic pediatrics, as described by Dr. Dorothy Whipple, is what could be considered the ideal philosophy in treating patients. Any physician who practices euthenic pediatrics will help the children directly, and through the parents, to reach their optimal growth physically, intellectually, emotionally, and culturally. Dr. Whipple has succeeded in portraying the evolution of a human being from prehistoric times to the *Homo sapiens* of 1966, as well as the evolution of the cell to the complex human being of the atomic age. She has discussed the development of the body with the normal variance. She has followed the development and maturing of the intellect and the maturing of the ego, on which the final level of human achievement depends. She has dissected precisely and with warm approach the minute details of human growth and the element that makes a living being humane—the element which is the very driving force to develop and open up the inherent potential. It is the ability to love, and hence, being loved, and the ability to please, and being pleased, that bring us on the long road of learning. They give the energy, the drive, and the desire to learn, which lead to greater and further fields of intellectual discovery and satisfaction. She also indicates the consequences of lack of love to the unfolding of the tender human organism.

She explains with great clarity and unlimited warmth the physical needs of the body throughout the development, the intellectual needs of the mind to reach for greater accomplishments, and the emotional environment for a secure, responsible, and loving human being.

I consider this book "must reading" for every medical student, a refresher course in physical, mental, and emotional development of children for every pediatrician, and for any physician who treats and likes children a worthwhile compendium for better medical care. I should like to go further and say that any adult caring about human growth would benefit by reading the second part which pertains to emotional and intellectual growth of children. An excellent book!

CATHARINE KNOP, M.D.



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Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

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THIS IS THE EIGHTH of a fourth series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions and scientific organizations in the Washington Metropolitan Area. For the WASHINGTON HOSPITAL CENTER NUMBER the Editorial Board is indebted to Dr. Lawrence E. Putnam, Chairman of the Editorial Committee of the Center, who secured the papers which appear in this issue.

Some Therapeutic Disasters and Their Repercussions

FREDERICK WOLFF, M.D.*

IN CERTAIN CIRCUMSTANCES any powerful drug or vaccine is almost of necessity a powerful poison, but as long as treatments remain orthodox their use is rarely criticized. Therapeutic breakthroughs as well as recent drug tragedies have highlighted the forward surge of medicine over the past 30 years.

It is the purpose of this paper to review some therapeutic disasters and to attempt to clarify their causes and trace their repercussions. A therapeutic disaster is here defined as a sizable explosive outbreak of untoward reactions which has become noted.

In order for such event to enter the pages of history, knowledge of such a disaster must be spread by the available means of communication, factual proof of the disaster must be accepted by contemporary society, and steps must be taken to hand down details of the disaster to coming generations, either by publications, books, or word of mouth.

Disastrous reactions to drugs seem not to have been particularly noted in Ancient Egypt. Drug administration was conservative. In Greece the materia medica of Dioscorides was rational and strictly adhered to.

The materia medica of Hippocrates was restricted; he employed few drugs and relied largely upon the healing power of nature.

Reports of drug administration during the Middle Ages are highlighted by the occurrence of many individual therapeutic disasters, though there is no knowledge of the explosive drug reaction noted in the 20th century. During the 14th, 15th and 17th centuries a flood of poisons—heavy metals such as antimony, mercury, silver, and gold, powerful extracts of plant origin, etc.—was added to the already widespread abuse of such fatal procedures as profuse venesection and the application of cow dung to promote healing of open wounds.

In 1634 Fabricius Hildanus,¹ town physician at Bern, raised one of the few voices against the widespread abuse of powerful chemicals:

"As drug therapy is one of the columns on which God the Almighty has founded his monarchy in the great building of this world and without which this world could not persist, so must wise and Christian rule, as administrator of God on earth, see to it that Satan does not add rotten and wormridden woods to the building of his empire during the night and, as weeds are added with good seed, thus the columns of the divine building may be spoiled, and therefore I find it my duty to think and to complain against the lying false chemists and raseals that are the destroyer of man, and I wish to put some of their deeds before our superiors, not alone to remind them of their duties, but also to dispose of things

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which are on my conscience, as I have myself misused some of those drugs.

"Throughout Germany in almost all places the country is infiltrated by such rogues, rascals and rotten people which are the smelling pest of the Republic (*Veluti Pestis reipublicae*). It is therefore necessary to print such discourse so that it comes into many hands, and I hope this will not be misunderstood."

Fabricius Hildanus makes his point with numerous examples of cases of drug poisoning, drugs having been administered often for trifling indications:

"... The case of a 45-year-old pregnant woman in excellent physical condition who had a little fever during a mild influenza epidemic. The local physician gave her a draft which was followed by severe abdominal pain, colic, and the most intense diarrhea with more than 50 stools in 12 hours. Finally, pure blood was passed per rectum. Eventually she became dehydrated, the mouth furred, she had great thirst, and her teeth became almost black. She cursed the physician without stopping and cried that he had murdered her. Finally, after 48 hours she became yellow all over her body as if she had been painted with mustard. Then, on the third day, after being unconscious for 2 hours, she died with general convulsions and finally looked pure white."

In another place, we are told of "... a young, strong man who was given antimony for indigestion and became extremely ill, and was convinced that he had been poisoned by his physician and tried to kill him, and was prevented from this in the last moment by some of his friends, but finally he died from what was apparently antimony poisoning."

Hildanus goes on to say that he is not against drug therapy as such but just against its irrational and dangerous application. He states that it is the rascals and crooks among the drug physicians who, through "... their big talk, cheating, take the reputation of others who also try to apply themselves to this study. ... Not all people die suddenly of the chemical medicaments, but in many the poison remains for weeks or months in the body and death takes place after a long delay."

He quotes another case in which the wife of a nobleman was put to death by a drug and in which the physician blames the apothecary for giving him the dangerous medicament. However, he states:

"The physician should have known the property of the drug, and he should have learned about this ... I state that anybody who will take drugs from such rascals, this should be a warning to them, and he should know about it first before he uses them."

Insight into the dangers of heavy metal administration became widely known toward the end of the 18th and the beginning of the 19th century. In 1811 Andrew Mathias² wrote on the mercurial disease, and inquired into the history and nature of disease produced by the use of mercury:

"... That mercury in some instances ceases to act as a remedy and produces specific action in the system, differing entirely from all its other operations, having in itself a power of suppressing, but not of curing, the venereal action: I wish also to evince that this specific morbid action is produced by mercury alone, as it is often brought on in habits free from venereal action ...

"The patient was a woman of about 35 years of age. She first took mercury for 3 venereal ulcers on the labia pudendi which were also locally treated with mercurial lotions and which after some weeks healed. Upon this she thought herself well, and of course quitted her mercurials. Some time afterwards she caught cold and complained of a sore throat, and mercury was given again on the presumption that some slight exfoliation of the skin and mouth was venereal. For 4 years either in the spring or in the autumn the disease renewed its appearance and gradually became worse and worse on each return. The ulcers on the tonsils and uvula were large and foul, and the inside of her nostrils took on the complaint. The disease was considered, however, to be venereal and particularly so from being sometimes connected with severe pains in her shin bones. Five courses of mercury were given at different times with steady perseverance, sometimes in the form of mercuriofrictions and other times in pills of calomel or of solution hydrarg to the ulcerated part. But though these appeared sometimes to check the disorder, it was soon apparent that the ulceration returned with more virulence. At last the patient was so much reduced and the ulceration became so formidable that the case was pronounced to be incurable and of a cancerous nature. On seeing her I judged it to be merely the effect of mercury, and this was a dreadful instance of the kind, and that in fact the patient had not been cured from its having so often been considered venereal. At this period her situation was truly horrible. The ulcers had entirely destroyed the tonsil glands and in part the uvula and the back part of the pharynx to the extent of nearly 2 inches. The surrounding inflammation and tumefaction were very great. The ulcers were foul, deep, and irritable, and every day we expected to see some of the vital vertebrae denuded. She had no appetite and could swallow nothing but fluids. Whenever she did sleep her breathing was loud and uncommonly disagreeable. As formidable as the appearance was, I could not bring myself to think that it was cancerous."

Finally, Mathias withdrew mercury after consultation and treated her with some bland oint-

ments, lotions and opium (for her severe pain), and within 3 months the woman made a complete recovery.

The repercussions to Mathias' treatise can be surmised from the way he had to lean over backwards to express admiration for his contemporaries and to make sure he would not be considered a trouble-maker, in disagreement with established medical practice:

"To differ in scientific or in practical opinions from any writer, however great and distinguished, can never be a mark of disrespect; nor, when we consider the frame, the duties and the expectations of man can it be regarded as presumption to approach the sanctuary of knowledge and with a calm but dignified temper of mind reconsider the ground and the validity of the most established doctrines or of the most widely received opinions . . . To living professional worth and reputation every tenderness is due; and delicacy alone prevents my gratifying the desire, which I should otherwise feel, of adverting to the merits of many of my contemporaries; but perhaps they are better understood by my silence, and are more conspicuous from not appearing in these pages . . ."

Toward the middle of the 19th century it dawned on an increasing number of physicians that attempts at treatment throughout the Dark and Middle Ages had contributed to, rather than relieved human suffering. The period of therapeutic nihilism was at hand. It must have been a relief to many of the scientific minds of the late 19th century to be able to abandon "those stinking concoctions, those dangerous and illogically used heavy metals." Around the middle of the century, in London, a tract was published entitled, "Why We Should Not Be Poisoned Because We Are Sick! or, The Fatal Absurdity of Drug Medication Exposed and Confuted, edited by One of Its Victims."³ On its title page there are such striking excerpts as:

"Things (i.e., the state of physie) have come to such a pass that they must either mend or end."—Sir John Forbes, M.D.

"The great success of quacks in England has been altogether owing to the real quackery of the regular physicians."—Adam Smith

"Our chiefest hopes (of medical reform) at present exist in the outer educated public. It is a sad but humiliating confession."—Dr. C. Kidd

Numerous physicians are quoted, of whom only a few can be mentioned here:

Professor B. F. Barker: "The drugs which are administered for the care of scarlet fever and measles kill

far more than those diseases do. I have recently given no medicine in their treatment and have had excellent success."

Professor Cox: "The fewer remedies employed in any disease, the better for your patient . . . Mercury is the sheet anchor in fevers, but it is an anchor that moors your patient to the grave."

Sir Astley Cooper: "The science of medicine is founded on conjecture and improved by murder."

Dr. Forth: "There is scarcely a more dishonest trade imaginable than medicine in its present state. The monarch who would entirely interrupt the practice of medicine would deserve to be placed by the side of the most illustrious characters who have ever conferred benefits on mankind."

Dr. Radcliffe: "The whole art of physie might be written on a single sheet of paper. When I commenced practice I had 20 remedies for every disease, but before I got through I found 20 diseases for which I had no remedy."

Professor Gregory of Edinburgh, Scotland: "Ninety-nine out of every 100 medical facts are lies, and medical doctrines are, for the most part, stark, staring nonsense."

Dr. Benjamin Rush: "Dissections daily convince us of our ignorance of disease and cause us to blanch at our prescriptions. What mischief have we not done under the belief of false facts and false theories! We have assisted in multiplying diseases; we have done more—we have increased their fatality."

Dr. Frank, a European author and practitioner: "Thousands are annually slaughtered in the quiet sick room. Governments should at once either banish medical men and proscribe their blundering art, or they should adopt some better means to protect the lives of the people than at present prevail, when they look far less after the practice of this dangerous profession, and the murder committed in it, than after the lowest trades."

Dr. Billing: "I visited the different schools of medicine, and the students of each hinted, if they did not say so, that the other sect killed their patients."

Professor M. Magendie, in addressing his medical class: "Gentlemen, Medicine is a great humbug. I know it is called science. Science, indeed!"

Those who think that the placebo and controlled trials are a modern invention can profit from reading Dr. Magendie, the celebrated French physiologist and pathologist:

"Let me tell you, gentlemen, what I did when I was the physician at the Hotel Dieu. Some 3,000 or 4,000 patients passed through my hands every year. I divided the patients into 2 classes: With one I followed the dispensary and gave the usual medicines, without having

the least idea why or wherefore; to the others I gave bread pills and coloured water, without, of course, letting them know anything about it, and occasionally, gentlemen, I would create a third division to whom I gave nothing whatever. These last would fret a good deal. They would feel that they were neglected. Sick people always feel they are neglected, unless they are well drugged—*les imbeciles*—and they would irritate themselves until they got really sick, but nature invariably came to the rescue, and all the persons in the third class got well. There was but little mortality amongst those who received the bread pills and coloured water, but the mortality was greatest among those who were carefully drugged according to the dispensary.”

During this period of therapeutic nihilism one of the first recorded disasters occurred. In Germany and France, during the 19th century, there was much discussion of whether one could transmit syphilis by inoculating the patient under the skin with secretion from a bubo. At a local meeting of physicians of the Pfalz (a sector in Western Germany) in 1876 the local medical officer of health stated he had information available concerning this question but could not give its source.

He then proceeded to describe 14 cases, 6 women and 8 men, ranging in age from 17 to 35, who in the local Poor Law Hospital were inoculated with secretions from a syphilitic bubo. These patients had never had syphilis. The inoculation resulted in every case in a typical syphilitic ulcer which was followed by secondary skin manifestations. When second-stage syphilis occurred it was treated with potassium iodide “successfully.” In a few resistant cases local mercury applications were used. This episode, known as the Pfälzer Anonymous, has been unraveled by Professor Hoffman,⁴ a German dermatologist. The medical officer of health who reported these cases from an anonymous author was himself the experimentalist. This somewhat rigorous experiment had an influence in its time in stopping wholesale inoculation with active syphilis.

No comment was made concerning the ethical aspect of the experiment. On reading a report of December 10, 1912, one ceases to be surprised about the lack of caution in human experimentation. The Berlin Dermatological Society discussed the frequent occurrence of death following salvarsan infusions, mentioning 40 cases.⁵ Nobody appeared surprised, and the practice of intravenous infusions was not stopped at that time.

In 1929 a strain of BCG vaccine was sent from the Pasteur Institute in Paris to Luebeck and found its way into a general bacteriology laboratory. There it was either contaminated or ex-

changed in error with a strain of virulent tubercle bacillus vaccine. During a period of 2 months between February and April 1930 the vaccine was administered to 249 newly born infants. Of these many developed acute tuberculosis, and 75 died.

The repercussions following this disaster were interesting. For example, it was argued that the BCG vaccine had undergone increase in virulence by passage. This opinion was held for some years, particularly by conservative British physicians who found that this added force to their anti-BCG views. The *British Medical Journal*⁶ of June 6, 1931 says:

“To assert, as Calmette does, that in all these experiments the cultures became contaminated with another strain of tubercle bacillus is to offer an excuse that becomes increasingly tenuous with each additional piece of evidence brought forward.”

However, it is now generally accepted that a mistake occurred in the laboratory. In the same issue the *British Medical Journal* stated:

“Professor Deycke, in order to avoid any possible error, destroyed all the remaining vaccine in the laboratory, together with the existing subcultures of the BCG strain. This unfortunate step, which was clearly open to more than one interpretation, added greatly to the difficulties of the subsequent investigation.”

Since that time it has become common practice to produce and store BCG vaccine in few laboratories, with no other vaccine being produced in them.

In January 1928 there occurred the Bundaberg disaster in Queensland, Australia.⁷ Of 21 children inoculated with a diphtheria toxin-antitoxin mixture, 12 died of staphylococcal septicemia. The mixture had been prepared without antiseptic and instead of being put into glass phials was put into rubber-capped bottles. No instructions to this effect had arrived for the medical officer of health. The government inquiry proved that a virulent staphylococcus had grown in several of these bottles and was transferred as a result of insufficient attention to sterility during inoculations. The Royal Commission advised that all biologic products not containing antiseptic, however issued, should bear a conspicuous printed notice, both on the container and the package, to the effect that no antiseptic was present. It was to be used immediately on opening and any remaining product discarded. They also advised that “to ensure the adoption of the most approved technique, facilities for special postgraduate training should be afforded to all medical officers entrusted

with the conduct of public campaigns to diminish the incidence of disease by immunization."

At Baden, near Vienna, in September 1923, 7 children died as a result of faultily prepared diphtheria toxin-antitoxin mixture in which antitoxin had been omitted. Widespread diphtheritic skin infiltrations resulted. A similar disaster occurred in Dallas, Texas, in 1925, with 5 deaths. Another was reported from Concord and Bridgewater, Massachusetts, in 1924.

Modern methods of mass persuasion (both of patient and physician) can be used to employ a form of therapy which might be entirely useless, which might be given inappropriately, and which in certain circumstances could lead to death.

In 1917 Frouin and Gregoire⁸ published evidence purporting that tin compounds modified staphylococcal infections. This, based as it was on the study of 7 treated rabbits with 2 controls, claimed to show that tin, tin oxide, stannous chloride, and sodium stannate modified the virulence of staphylococci and delayed the death of infected rabbits. How it ever came to be given serious consideration remains a mystery.

The belief has remained, however, despite later evidence, that neither the soluble nor insoluble compounds of tin have any effect against staphylococci in vitro or in vivo. There was no critical clinical trial of the value of tin in furunculosis. Faith in the virtues of the insoluble tin compounds, such as stannous oxide, at least did the patient no harm, but the idea that soluble organic tin compounds might prove to be more active led to the French tragedy of Stalinon.

Stalinon was a proprietary preparation sold in capsules throughout France during 1956 and 1957 for the treatment of boils, osteomyelitis, anthrax and aene. It was said to contain diethyl-tin diiodide, 15 mg. per capsule, and linoleic acid, 100 mg. per capsule. The recommended dose was 6 capsules daily for 8 days for adults and half that amount for children.

Two hundred and seventeen people are known to have been poisoned by this preparation, and 100 died. The total number of people who took these capsules is believed to be about 1,000. The main impurities in the capsules were monoethyl-tin and triethyl-tin. The latter is 10 times as toxic to rats as diethyl-tin by the oral route. Alajouanine, Derobert and Thieffry⁹ have surveyed the clinical data in 201 of these cases, 98 of which were fatal. Symptoms of poisoning appeared after a latent period of 4 days and included severe headache, vomiting, retention of urine, vertigo, abdominal pain, and visual disturbances. There were

rapid loss of weight and psychic disturbances. Pedal edema was sometimes seen. Death occurred either in coma or from respiratory or cardiac failure.

The French pharmacist and inventor of the remedy was sentenced to 2 years in prison and fined \$2,500. Damages of \$1,500,000 were awarded to the victims and their families.

The *British Medical Journal*¹⁰ commented, on March 1, 1958:

"... Can the premarketing testing of proprietary products in France be improved? ... The French system makes the manufacturer wholly responsible for his product, though its sale is dependent on the approval of an expert scientific committee. This committee, which works in complete secrecy, examines the manufacturer's evidence and then advises the Ministry of Health ... this system did not prevent the Stalinon case, since everyone was misled by the initial error ... there was little available experience of the use of organic tin compounds ... If the makers of Stalinon had applied proper controls to their product, while they might have made no sensational discoveries they would have at least abandoned their plans for putting it on the market. They would have found it was neither stable nor a uniform product and that it did not come up to the standard expected ...

"... This disaster in France shows how necessary is international scientific coöperation in such problems. As a result of the collaboration of Dutch chemists, French pharmacologists, and British toxicologists, we have added to our knowledge of toxic properties of organic tin compounds."

This disaster led to a marked strengthening of the French drug laws.

During September and October 1937 at least 73 persons died in this country as the direct result of taking a drug known as "elixir sulfanilamide." Twenty other patients died, though it has not been established that the drug was exclusively responsible in these cases. Elixir sulfanilamide was manufactured and sold by the Massengill Company of Bristol, Tennessee. The sulfanilamide was put into solution with diethylene glycol; the lethal effect of the elixir was due to the latter substance. It was placed on the market without adequate tests to determine whether or not diethylene glycol might be safely used as a solvent for sulfanilamide, despite previously published reports in the scientific literature showing that diethylene glycol might be dangerous when taken internally. A few simple and inexpensive tests with animals would have quickly demonstrated the toxic properties of both diethylene glycol and the elixir. The drug label gave no indication of the diethylene glycol content.

A Congressional inquiry¹¹ led to the modern structure of the Food and Drug Administration. The manufacturer, following reports of the poisoning effects of the elixir, sent out telegrams stating: "Do not use Elixir Sulfanilamide shipped. Return our expense." These telegrams gave little indication of the dangerous character of the products and were not calculated to impress the receiver with the emergency. It became clear that days after the first death had been reported more patients were still taking the drugs. The Food and Drug Administration insisted that another telegram be sent out: "Imperative you take up immediately all stock of sulfanilamide dispensed. Product may be dangerous to life. Return all stocks our expense."

Dr. A. Calhoun¹² wrote in the *New Orleans States* of October 22, 1937:

"... I have practiced here for years. Any doctor who has practiced for more than a quarter of a century has seen his share of death.

"But to realise that 6 human beings, all of them my patients, one of them my best friend, are dead because they took medicine that I prescribed to them innocently, and to realize that the medicine which I have used for years in such cases suddenly had become a deadly poison in its newest and most modern form, as recommended by a great and reputable pharmaceutical firm in Tennessee; well, that realization has given me such days and nights of mental and spiritual agony as I did not believe a human being could undergo and survive..."

This letter¹³ to President Roosevelt is also taken from the *Congressional Record*:

"DEAR SIR:

"Two months ago I was happy and working taking care of my 2 little girls, Joan aged 6 and Jean aged 9. Our byword through the depression was that we had good health and each other. Joan thought her mother was right in everything, and it would have made your heart feel good last November to have seen her jumping and shouting as we listened to your reflection over the radio. Tonight, Mr. Roosevelt, that little voice is stilled. The first time I ever had occasion to call in a doctor for her and she was given the Elixir of Sulfanilamide. Tonight our little home is bleak and full of despair. All that is left to us is the caring for of that little grave. Even the memory of her is mixed with sorrow for we can see her little body tossing to and fro and hear that little voice screaming with pain and it seems as though it would drive me insane..."

"Tonight, President Roosevelt, as you enjoy your little grandchildren of whom we read about, it is my plea that you will take steps to prevent such sales of drugs that would take little lives and leave such suffer-

ing behind and a bleak outlook on the future as we have tonight.

"Surely we can have laws governing doctors also who will give such a medicine, not knowing to what extent its danger, and then lying and stealing the prescription they wrote supposedly from a reliable drug store. I don't believe such a doctor has taken his oath in all sincerity. Our lives are not safe entrusted in the hands of such a doctor, for that was my experience to my sorrow..."

"It is easy for people to say, 'Try to think that she died so others might live.' It is easier to say when it doesn't strike in your own home..."

Sincerely,

(Mrs.) MAISE NIDIFFER"

In response there was Dr. Massengill's statement¹⁴:

"My chemists and I deeply regret the fatal results, but there was no error in the manufacture of the product. We have been supplying legitimate professional demand and not once could have foreseen the unlooked-for results. I do not feel that there was any responsibility on our part. The chemical sulfanilamide had been approved for use and had been used in large quantities in other forms, and now its many bad effects are developing."

The Department of Agriculture made the following recommendations: "... License control of new drugs to insure that they will not be generally distributed until experimental and clinical tests have shown them to be safe for use..."

Following this disaster a marked strengthening of the Food and Drug laws was undertaken (1938).

In Europe and elsewhere the lessons of this debacle were acted upon more slowly, if at all. The recent outbreak of phocomelia related to the taking of thalidomide in early pregnancy¹⁵ was prevented in this country essentially due to the existence of regulations and an organization (Food and Drug Administration) that delayed the commercial distribution of thalidomide until knowledge of side-effects (polyneuritis) became known. Eventually the link to the marked increase in developmental defects in the newborn in Europe became common knowledge.

The picture was different overseas, and it is thought that in West Germany there were some 7,000 deformed infants, of whom between 4,000 and 4,500 might have lived.¹⁶ Leck and Millar¹⁷ thought that some 800 malformed infants were born in Great Britain, and there are reports of cases in countries as far apart as Japan and South America where phocomelia could be traced to tablets containing thalidomide.

Dr. Frank's admonition³ is at last being acted upon in the United States. Parliamentary com-

mittees in countries like Britain and West Germany are following suit, and the World Health Organization Assembly has recently set up a study group to urgently consider the problem of drug side-reactions and the setting up of an international warning system that would communicate rapidly important drug side-effects to physicians everywhere.

During the past 20 years of rapid therapeutic expansion and the development of a multiplicity of potent new drugs and vaccines there has come an increasing awareness of the 2-edged nature of modern drug therapy. Strict adherence to indications and avoidance of unnecessarily widespread or lengthy administration are urged not infrequently in review articles of drug therapy today. It is known that the speed and extent of early human trials with such drugs as hypoglycemic agents, cholesterol depressing agents, amine oxidase inhibitors, tranquilizers, etc. have produced a significant accumulation of serious and even fatal side-reactions. "Congressional knights on horseback"¹⁸ have concluded that the medical profession requires defenses against its own weaknesses and against those who may mislead them.

A review of the historic background of medical treatment and gradual evolution of a rational attitude toward therapeutic procedures and drugs cannot help but bring out the inadequate part played by medical schools in equipping tomorrow's physicians with a careful, rational and objective attitude toward therapeutics. It may well be the continuing nonexistence or slow development of special departments in drug therapy and of post-graduate courses in rational therapeutics that has led to the state where governmental regulations have had to be introduced.

When we are attempting to set our house in order we must agree with Andrew Mathias¹⁹:

"... No discussion can be considered as fatiguing, no examination can be regarded as tedious or superfluous by the wise and good, when we are called upon to consider either the nature, or the relief, or the prevention of those infectious distempers which are foes to life, and which are frequently attended with pains fiercer than those of death itself... mistakes (if any are found or even suspected to exist) should be pointed out for examination with sincerity and with candour. To this there can be no objection; it is a duty which is owing to

society and to the usefulness of our profession... the miseries of man will be lessened, and the groans of suffering humanity will be variously appeased."

Recent disasters are eloquent examples of a modern Pandora's box and appear to justify a degree of public control and supervision in all countries. It remains to be hoped that progress will not be stifled by excessive zeal and lack of understanding of the problems of objective drug research. In any case the repercussions of the new U.S. laws on the practice of medicine and therapeutics will be considerable and will provide a milestone to be remembered in the rational development of the healing arts.

References

1. HILDANUS, F.: Von der Furtrefflichkeit und Nutz der Anatomy. Aarau, Leipzig: H. R. Sauerlander & Co., 1963.
2. MATHIAS, A.: The Mercurial Disease. Philadelphia: Howard Parker, 1811.
3. Why We Should Not Be Poisoned Because We Are Sick! Confessions of Its Most Eminent Practitioners. London: J. Burns, 1868.
4. HOFFMAN, E.: Dermat. Ztschr., 1913, **19**, 1043.
5. Vhdlg. Berl. Dermatol. Gesellschaft. Ibid., 1913, **20**, 221.
6. Brit. Med. J., 1931, **1**, 986.
7. Royal Commission Inquiry into the Bundaberg Disaster. London: His Majesty's Stationery Office, 1928.
8. FROUIN, A., AND GREGOIRE, R.: Compt. rend. Acad. d. sc. (Paris), 1917, **164**, 794; in Barnes, J. M., and Stoner, H. E.: Pharmacol. Rev., 1959, **11** (pt. 1), 211.
9. ALAJOUANINE, T., DEROBERT, L., AND THIEFFRY, S.: Rev. Neurol. (Paris), 1958, **98**, 85; in Barnes and Stoner: see ref. 8, p. 212.
10. Brit. Med. J., 1958, **1**, 515.
11. Congressional Record: Letter from the Secretary of Agriculture. Washington, D. C.: U. S. Government Printing Office, 1937, no. 4.
12. CALHOUN: Ibid., no. 6.
13. NIDIFFER: Ibid., no. 8.
14. MASSENGILL: Ibid., no. 9.
15. MELLIN, G., AND KATZENSTEIN, M.: New Eng. J. Med., 1962, **267**, 1184 and 1238.
16. WEICKER, H., AND HUNGERLAND, H.: Deutsch. Med. Wschr., 1962, **87**, 992.
17. LECK, I. M., AND MILLAR, E. L. M.: Brit. Med. J., 1962, **2**, 16.
18. LASAGNA, L.: The Doctors' Dilemmas. New York: Harper, 1962, p. 166.
19. MATHIAS, A.: See ref. 2, p. 247.

Metabolic Bone Disease*

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THE RHEUMATOLOGIST has an excellent opportunity to detect and diagnose patients with a variety of metabolic bone diseases. When bone near the articulating surface is involved in metabolic bone disease it is understandable that the patient will present findings which on many occasions will simulate a variety of rheumatic afflictions. The following are some examples of patients with medical bone disease who presented themselves initially with features that suggested some form of arthritis. The thoughts expressed are those that have had special interest for me and are not meant as a detailed review of the large field of medical bone disease.

Hyperparathyroidism

The first patient is a teen-age girl who complained of pain, tenderness and swelling in the region of the knees and had marked genu valgum. The bone adjacent to the knees on roentgenograms suggested the possibility of osteitis fibrosa cystica, and subsequently the diagnosis of hyperparathyroidism was established. Following removal of a parathyroid adenoma there was a marked improvement in the symptoms and deformities of the knees.

Bywaters¹ has recently reviewed 19 patients with hyperparathyroidism who had joint symptoms suggesting some form of arthritis. In 12 of these patients there was joint pain and tenderness, in 8 joint effusions, in 11 soft-tissue calcification and/or calcification of the articulating cartilage, and in 14 erosions in the bone adjacent to the joint spaces.

Hyperparathyroidism should be considered when one is dealing with patients who have rheumatoid or other forms of arthritis with atypical features. Involvement of the bone near the articulating hyaline cartilage by osteitis fibrosa cystica will result in destruction of the hyaline cartilage and replacement with fibrous cartilage. As a result of this pathologic process, instability of the joint

occurs with secondary degenerative changes, joint effusions, and thickening of the synovium that may simulate rheumatoid arthritis.

Hyperparathyroidism may cause chondrocalcinosis or pseudogout characterized by recurrent episodes of joint pain, swelling, and effusion interspersed with pain-free intervals. Roentgenograms of the involved joints may show calcification of the articulating cartilage, and examination of the joint fluid may show the characteristic pyrophosphate crystals. Chondrocalcinosis should not be a final diagnosis but should be looked upon as a possible clue to an underlying metabolic bone disease, not only hyperparathyroidism but also other conditions associated with hypercalcemia, such as hypervitaminosis D, milk-alkali-syndrome, and chronic renal failure with metastatic calcification.²

There has been recent interest in the possible relationship between hyperparathyroidism, hyperuricemia, and gout. Mintz and associates³ reported hyperuricemia in 4 of 8 patients with hyperparathyroidism. Gout or a family history of gout was noted in 2 patients of the hyperuricemic group. Since some degree of renal insufficiency is frequently present in hyperparathyroidism, this should always be ruled out first as a possible cause of associated hyperuricemia. In the patients described by Mintz, there was no change in the elevated serum uric acid after surgical correction of the hyperparathyroidism. In addition, the administration of parathyroid hormone did not alter either serum uric acid or uric acid clearances, which suggests that parathyroid hormone alone does not affect uric acid metabolism. It is possible that minor degrees of nephrocalcinosis occurring in hyperparathyroidism might result in a renal tubular defect and interfere with the secretory phase of urinary excretion of uric acid, but this is only speculation. Attempts at case detection for hyperparathyroidism in patients with gout have been carried out but were not very rewarding.⁴ Further study of this problem is needed before a definite relationship between the 2 diseases can be confirmed.

There is increasing evidence that parathyroid hormone affects soft tissue as well as the skeleton. A patient was recently reported with spontaneous

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avulsion of several tendons about the knees.⁵ In this patient there was pain, swelling and tenderness about the knees, and initially the patient was thought to have rheumatoid arthritis. Subsequently a diagnosis of hyperparathyroidism was established. Parathyroid hormone appears to have a depolymerizing effect on nonskeletal as well as skeletal collagen. This may explain the hypotonicity, joint laxness, and such rare findings as tendon avulsions in hyperparathyroidism. The soft tissue effects of hyperparathyroidism will undoubtedly receive increased attention.

Hypoparathyroidism

Patients with postoperative and idiopathic hypoparathyroidism ordinarily do not have skeletal symptoms, but this is not true for pseudohypoparathyroidism. In addition to the well-known physical features of patients with pseudohypoparathyroidism, there may be evidence of bone demineralization and subperiosteal resorption. This suggests a parathyroid effect despite the presence of hypocalcemia. Features of osteitis fibrosa in these patients have been described by Kolb and Steinbach⁶ and have been given the unwieldy, but meaningful, term "pseudohypohyperparathyroidism." Several of these patients have shown slipped femoral epiphyses, perhaps the result of weakened bone due to the underlying osteitis fibrosa. It is theorized that the refractoriness to parathyroid hormone at the renal tubular level results in secondary hyperparathyroidism. Under these circumstances, and if the skeleton is sensitive to the effects of the patient's parathyroid hormone, osteitis fibrosa cystica would be the end-result. Why these patients persist in having hypocalcemia with parathyroid responsiveness at the skeletal level is not clear. Perhaps the continuing hyperphosphatemia that is a reflection of the renal tubular refractoriness may in some way be responsible. Not all of these patients have skeletal responsiveness either to their own or to exogenous parathyroid hormone. Dent⁷ in an attempt to explain this enigma has postulated the presence of 2 parathyroid hormones, 1 a calcium and phosphorus liberating hormone, and another whose excess production would manifest itself as osteitis fibrosa and a rise in plasma alkaline phosphatase. He theorizes that it may be possible to have parathyroid hormone effect on the skeleton, giving rise to osteitis fibrosa without liberating calcium from the skeleton. This is contrary to current views which indicate that all major effects of parathyroid hormone are contained in the same molecular structure.

Renal Osteodystrophy

The next patient is a 7-year-old girl who complained of severe pain, swelling and tenderness about the knees which prevented her from walking. She was found to be anemic, severely azotemic, and acidotic. Her uremia was due to congenital strictures of the ureters and secondary pyelonephritis. Roentgenograms of her knees demonstrated evidence of rickets, with widening and irregularity of the epiphyseal line. Serum calcium was 6 mg. per cent; phosphorus, 8 mg. per cent; and alkaline phosphatase, 15 Bodansky units.

Renal osteodystrophy is one of the most complicated of the metabolic bone diseases. There may be evidence not only of rickets or osteomalacia but also osteitis fibrosa cystica, osteoporosis, and even osteosclerosis. All these different pathologic processes may occur near each other in the same bone or in adjacent bones. The theory that the skeletal changes in this condition are secondary to the underlying renal acidosis is not held tenable at the present time. Stanbury,⁸ who studied this problem, could not correlate skeletal changes with degree of renal acidosis.

Two approaches to therapy have received recent study. If the main skeletal process in renal osteodystrophy is rickets or osteomalacia, large doses of vitamin D may give symptomatic improvement. This is the case in the patient illustrated. This child had complete disappearance of skeletal pain and tenderness on 50,000 U vitamin D daily without deterioration of her renal function. With such large doses of vitamin D these patients should be followed closely, since nephrocalcinosis and progression of renal failure are always a possibility. The rickets and osteomalacia in this condition appear to be due to a resistance to the effects of vitamin D at the intestinal level, interfering with absorption of calcium. This resistance can be overcome by large doses of vitamin D.

In some patients with renal osteodystrophy the main skeletal defect is osteitis fibrosa cystica due to secondary hyperparathyroidism as the result of the chronic uremia. Under these circumstances the serum calcium level may be higher than one would ordinarily expect for the degree of renal failure. In several instances subtotal parathyroidectomy has been carried out with alleviation of the skeletal discomfort from the osteitis fibrosa.

It is becoming increasingly clear that some patients with secondary hyperparathyroidism due to chronic renal disease may have an autonomous parathyroid adenoma superimposed upon secondary hyperparathyroidism. This condition has

been called by some, tertiary hyperparathyroidism. In these cases the serum calcium, which earlier in the course of the renal failure is depressed, may actually rise to significant hypercalcemic levels with progression of the uremia. It is also possible that autonomous primary hyperplasia may be superimposed upon the secondary hyperparathyroidism of renal failure. The recent article by Golden and associates⁹ emphasizes some problems of parathyroid hyperplasia and adenoma in chronic renal disease.

Vitamin D-resistant Rickets

The next patient is a 10-year-old girl who had instability of the right knee joint and genu valgum. A roentgenogram of this joint was compatible with rickets. The serum calcium was normal; serum inorganic phosphorus 2 mg. per cent; and alkaline phosphatase 14 Bodansky units. There was no steatorrhea and no systemic acidosis. The diagnosis was late-onset, sporadic vitamin D-resistant rickets. There was no family history of a skeletal disorder. The patient had an osteotomy with correction of her deformity and is now asymptomatic on 50,000 U vitamin D daily plus an oral phosphate solution to tolerance.

The pathogenesis of vitamin D-resistant rickets and also its therapy have received increasing attention. There are 2 main theories as to causation: a congenital defect for absorption of calcium with early hypocalcemia and secondary hyperparathyroidism, leading to increased renal clearance of phosphorus, and a primary renal tubular defect for phosphorus, secondary hypophosphatemia, and the development of rickets or osteomalacia. These theories are difficult to resolve, and they may not be mutually exclusive. There is evidence, at least in some patients, that oral phosphate supplements to tolerance may result in X-ray evidence of healing of the osteomalacia with improved calcium balance. This suggests that the apparent intestinal defect for absorption of calcium can be corrected if the serum phosphorus is kept at normal levels, so that both phosphorus and calcium enter into bone. With improved skeletal deposition of calcium, there may be secondarily improved intestinal absorption of calcium. Personal experience indicates that adults with vitamin D-resistant osteomalacia do better with oral phosphate supplements than do children with the disease. It is possible that the lower normal serum phosphorus in adults may have a bearing on this; perhaps the adult skeleton can mineralize at lower levels of serum phosphorus than that of children. The higher phosphorus levels necessary

in children may be more difficult to attain with oral phosphorus because of the dose-limiting factor of diarrhea. With the use of phosphorus supplements, less than toxic doses of vitamin D may have greater effectiveness in treatment of resistant rickets and osteomalacia.

Osteomalacia Secondary to Ureterosigmoidostomy

The next patient has been most rewarding from the diagnostic and therapeutic points of view. The patient is a 55-year-old man who came to the Clinic with severe pain about the left hip which caused him to limp. The urinary bladder had been removed 10 years before because of cancer. A colostomy and ureterosigmoidostomy were performed. The CO₂ combining power was 14; serum chloride, 114 mEq; and arterial pH, 7.18. The evidence was in keeping with systemic acidosis secondary to the ureterosigmoidostomy. The serum calcium, phosphorus and phosphatase surprisingly were normal on 2 occasions. X-ray films of the left hip initially were interpreted as normal. However, lamino-grams of the left hip showed a typical pseudofracture of the neck of the femur. After bone labeling with tetracycline a bone biopsy was performed and examined histologically by Dr. H. Frost. Flagrant osteomalacia was present. With 12 Gm. of bicarbonate daily to correct the acidosis and 50,000 U of vitamin D there has been great lessening of the patient's pain.

The presence of such severe osteomalacia with normal serum calcium, phosphorus and phosphatase is interesting and illustrative of a number of other patients we have recently seen. Many of these patients were thought originally to have involutional osteoporosis, but biopsy of a rib after appropriate tetracycline labeling and tetrachrome staining demonstrated histologic evidence of osteomalacia, sometimes in conjunction with osteoporosis. I strongly believe that the biopsy has been most helpful in better defining a variety of metabolic bone diseases and should be part of the diagnostic workup in patients with demineralizing bone diseases.

Bone Dynamics in Osteomalacia

The abnormal osteoid seam is the pathologic hallmark of osteomalacia. After formation by the osteoblasts approximately 10 days of growth and aging is needed before the osteoid seam will accept deposition of mineral in the zone of demarcation. At this point the osteoid seam becomes mineralized to form lamellar bone.¹⁰

It has often been assumed that a healthy adult skeleton does not contain osteoid seams. This is not true and, in fact, the norm for osteoid seams in certain bones, at different ages, for both sexes, has now been determined. This can be used for a reference standard to define whether bone is indeed osteomalacic.¹⁰

It is important to remember that osteoid balance is dynamic. The amount of osteoid tissue present in the skeleton is the result of a constant balance between the rate of osteoid formation and the rate of mineralization of the osteoid tissue. The following possibilities of osteoid imbalance may occur, any one of which may lead to osteomalacic bone: (1) normal formation rate with decreased rate of mineralization, (2) decreased formation rate with a greater decrease in rate of mineralization, (3) increased formation rate with normal rate of mineralization, (4) increased formation rate with a lesser increase in mineralization, (5) any positive formation rate in the presence of a zero mineralization rate, and (6) formation rate increased with a decreased mineralization rate.

The diagnosis of osteomalacic bone is best detected by the study of undecalcified bone sections with special tetrachrome stains. The value of this staining technique over routine decalcified H and E sections in demonstrating osteoid seams can easily be illustrated.¹⁰ These new techniques in bone fixation and staining have allowed us to make a diagnosis of osteomalacia in many instances in which its presence was unexpected. The radiologic signs of osteomalacia, except for pseudofractures, are nonspecific, and values for serum calcium, phosphorus and phosphatase vary considerably and may be misleading with respect to the diagnosis of osteomalacia.

The following is a list of conditions in which rickets and osteomalacia may occur:

1. Vitamin D deficiency
2. Malabsorption syndromes
 - a. Postgastrectomy
 - b. Pancreatic disease
 - c. Small intestinal disease
 - d. Hepatic (biliary obstruction)
3. Thyroid and parathyroid
 - a. Hyperparathyroidism with osteitis fibrosa
 - (1) Treated
 - (2) Healing state
 - b. Hyperthyroidism with bone involvement
4. Renal
 - a. Glomerular insufficiency (renal osteodystrophy)
 - b. Tubular insufficiency
 - (1) Fanconi syndrome
 - (2) Tubular acidosis

5. Etiologies unknown or not clear
 - a. Vitamin D-resistant rickets and osteomalacia
 - b. Hypophosphatasia
 - c. Marble bone disease
 - d. Neurofibromatosis
 - e. Wilson's disease
 - f. Paget's disease
 - g. Beryllium, magnesium, strontium and lead administration
 - h. Osteoporosis (involutional)
 - i. Fluoride administration
 - j. "Axial" osteomalacia
 - k. Postureterosigmoidostomy

Space does not permit a detailed explanation of the pathogenesis in these various types of osteomalacia. It is important to remember that osteomalacia may be only one of several features of the metabolic bone disease in those conditions listed. Metabolic bone diseases are seldom pure but are usually a mixture of several pathologic processes progressing or regressing at the same time. Osteomalacic bone is the end-result of a continuous spectrum of both systemic and local causal factors. As our knowledge advances and vital factors in the mineralization of osteoid tissue are better defined, more examples of osteomalacia will be clarified as to pathogenesis.

Osteoporosis

Recently renewed attention has been given to the concept that involutional osteoporosis is the result of a negative calcium balance rather than a decline in anabolic hormone secretion. Dietary histories of patients with osteoporosis have been shown to be deficient in calcium, and calcium supplements given to patients with involutional osteoporosis have resulted in an improved calcium and phosphorus balance.

One of the major difficulties in the study of osteoporosis has been the lack of sensitivity in various roentgenologic techniques for determining bone density. There is increasing evidence that osteoporosis of the axial skeleton can be correlated with a decrease in bone cortical diameter of the metacarpals and mid-shaft of the femur.¹¹ This evidence suggests that all areas of the skeleton are affected by osteoporosis and not just the spine. Further studies¹¹ have demonstrated that bone density of the spine, as well as metacarpal and femoral cortex, are not related to calcium intake. Three groups of patients, age and sex matched, were grouped according to low, medium, and high calcium intake. In these patients vertebral density and cortical measurements of the metacarpal and

mid-shaft of the femur were similar in both the low- and high-calcium intake groups. This suggests that many patients with low-calcium intake are able to maintain quantities of bone similar to that seen in patients with a high calcium intake. This does not negate the importance of calcium in the pathogenesis of osteoporosis. It is possible that those patients with low-calcium intake have adapted with improved intestinal absorption of calcium or with reduced urinary excretion of calcium and, therefore, have been able to maintain calcium balance. On the other hand, those patients who are unable to adapt to a reduced intake in such a manner may be the very patients who develop osteoporosis. This, of course, holds only if other pathogenic factors for osteoporosis remain the same. A longitudinal study over a period of many years of measuring calcium intake, intestinal absorption and urinary excretion of calcium will be necessary before the importance of these factors can be defined in any individual patient.

Other recent studies may have pertinence with regard to the pathogenesis of osteoporosis.¹² The serum antirachitic activity was determined in both Puerto Rican and Michigan subjects. It was found that in all age-groups, the Puerto Rican subjects had a higher serum antirachitic activity than those from Michigan, probably related to a greater sun exposure. In conjunction with this, it was found that the serum calcium and phosphorus levels were significantly lower in the Michigan subjects as compared to the Puerto Rican subjects. It was also found that the Michigan subjects with osteoporosis had less serum antirachitic activity than their age-matched controls. It is possible, but not proven, that this difference in serum antirachitic activity, as well as in concentrations of calcium and phosphorus, may in some way be related to osteoporosis. Perhaps differences in serum levels of vitamin D, calcium and phosphorus may have a conditioning effect on the skeleton which may be a factor in the development of osteoporosis. It also may help explain the fact that Dr. H. Frost has observed in biopsies of ribs that approximately 20 per cent of patients with so-called involutional osteoporosis show evidence of osteomalacia as well as osteoporosis. This again emphasizes the fact that medical bone diseases are not pure and that, more often than not, one is dealing with a spectrum of metabolic bone diseases.

As with the balance concept for the osteoid seam in osteomalacia, it is also important to think of a balance between bone formation and bone resorption in osteoporosis. The decrease in bone

mass observed in osteoporosis results from an imbalance between bone formation and bone resorption and may arise in the following ways: (1) reduction in bone formation while bone resorption remains unchanged, (2) normal bone formation associated with increased bone resorption, (3) decrease in bone formation in addition to increased bone resorption, (4) an increase in bone formation with a greater increase in bone resorption, and (5) reduction in bone formation greater than a decrease in bone resorption. As knowledge increases it will be possible to determine the important factors of bone imbalance occurring in each of the several types of osteoporosis. Osteoporosis is not a single disease entity but results from a variety of factors affecting bone accretion, bone resorption, or both.

Rate of bone turnover is an important consideration in osteoporosis. It is apparent that bone may be rapidly formed and rapidly resorbed or, on the other hand, slowly formed and slowly resorbed. Despite varying rates of bone turnover, the actual amount of bone or bone balance present at any time may be unchanged. Rates of bone turnover can be measured by radiokinetic techniques and also by newer histologic methods. Hyperthyroidism is an example of a high turnover osteoporosis. In this instance both bone formation rate and bone resorption rate are increased, but bone formation rate is increased less than bone resorption; therefore, a high turnover osteoporosis results. The bone histology in hyperthyroidism is complicated in that there is not only osteoporosis, but also osteitis fibrosa and osteomalacia. Cushing's disease, on the other hand, is an example of low turnover osteoporosis. In this instance both bone formation rate and bone resorption rate are decreased, but there is a greater decrease in bone formation rate and, hence, a low turnover osteoporosis.

Perhaps some day the various osteoporoses can all be classified as to whether they are low turnover or high turnover. It is also important to remember that the same concept of rate turnover can be applied to the osteoid seam in osteomalacia, depending upon the rapidity of matrix formation and subsequent mineralization. We, therefore, can speak of a high turnover or low turnover osteomalacia.

Considerable recent advances have been made in the study of bone dynamics. To better define the causal factors in metabolic bone disease, a multidisciplinary approach is needed for each medical bone disease. The recently improved histologic

The Popliteal-space Syndrome

A Five-year Follow-up of the Surgical Findings

NORMAN POLLOCK, M.D.*, AND JULIUS S. NEVIASER, M.D., F.A.C.S†

THE ANATOMY and usual pathologic conditions of the popliteal space are well known and have been described for over a hundred years. Historically, Adams in 1840 first described the distention of the bursa under the medial head of the gastrocnemius muscle¹ and Baker² in 1877 lent his name to the now well-known entity of the popliteal cyst.

This paper presents the results obtained by the Orthopedic Staff of the Washington Hospital Center for almost a 5-year period of time, i.e., from July 1961 through March 1966, recording the findings of popliteal-space explorations and subsequent follow-up on the patients. In more than one-third of the patients explored an entity other than the usual cyst was encountered, and an attempt will be made to explain the pathologic anatomy of the entity known as "the popliteal-space syndrome." Included in this group were a total of 32 patients on whom 37 popliteal-space explorations were carried out.

The usual history was that of an insidious onset of discomfort in the popliteal region. This discomfort was often exaggerated by prolonged standing, walking, or attempted complete extension or flexion of the knee. In one-third of this group there were no signs other than the presence of a mass in the popliteal region which prompted the patient to seek medical advice. Trauma usually was not an inciting factor, and only 7 cases could definitely be connected with a known episode of trauma of the region, and only 2 patients had, at exploration, an intra-articular lesion. Other symptoms and signs which were elicited included mild-to-moderate swelling of the affected extremity, transient numbness or tingling along the posterior aspect of the thigh or calf extending to the lateral aspect of the foot, and weakness of the leg or foot.

The differential diagnosis of a mass or discomfort in the popliteal region other than the usual popliteal cyst includes:

1. Popliteal artery aneurysm, with which an exaggerated pulsation or bruit may be detected

2. Varicosities, which may be in evidence elsewhere in the leg

3. Hemangiomas which do not present a definite mass and which may show spotty calcification on X-ray examination

4. Arteriovenous fistulae, which may present increased heat and/or dilated vessels in the region

5. Pyogenic abscess, which is usually associated with other signs of acute inflammation

6. Lymphadenopathy, which may be evident in other regions of the body

7. Tumor, which is usually firmer, more solidly fixed to the surrounding structures and may show bony changes on roentgenograms

8. Partial tear of a hamstring muscle, which is commonly accompanied by a definite history of trauma and often has ecchymosis in the region

9. Osteoarthritis, which usually shows changes by X-ray and symptoms in the anterior compartment of the joint

10. Herniated or degenerative disc disease of the spine

11. The popliteal space syndrome.

There were 21 males and 11 females, a male preponderance of approximately 2:1. Excluding those patients with the popliteal-space syndrome this ratio jumps to 6:1, whereas the male/female ratio for the syndrome was 2:1. There was no real difference between sides, i.e., 18 left popliteal spaces were explored as opposed to 19 on the right side. Three patients, 8 per cent, were reexplored for recurrences of cysts, and 2 patients had both spaces explored. The age spread was from age 5 to 77 years, with the majority of the patients in the 25 to 50 age-group.

The 37 explorations represent approximately 7 per cent of the total number of knee arthrotomies performed at the hospital during the 5-year period, with 24 Baker's cysts, 1 synovial sarcoma, and 12 popliteal-space syndromes. The popliteal-

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space syndrome was described in 1951 by Lloyd of this city.³

At exploration each of the 12 patients with this entity demonstrated a normal-appearing, yet unusually taut, deep posterior fascia immediately overlying the heads of the gastrocnemius muscle. The neurovascular bundle going through the fossa was surrounded by normal-appearing

One patient was lost to follow-up. Table 1 gives the essential data of the 12 cases of this syndrome.

The cause of this syndrome is a local compression of the deep fascia on the popliteal fossa contents. Incising the deep fascia and in some instances stripping away part of the fat pad from the neurovascular bundle alleviated this compression phenomenon and a cure was effected.

TABLE 1: Data of the Twelve Cases of Popliteal-space Syndrome

Sex	Age	Complaint	Physical Finding	Duration	Follow-up
F	34	Pain	Fullness	3 mos.	Asymptomatic 3 mos.
F	50	Pain	Fullness	9 mos.	Asymptomatic 6 mos.
F	45	Pain	Fullness	3 mos.	Lost to follow-up
F	23	Pain after trauma	Fullness	1 mo.	Occasional pain 8 mos. (?) Meniscus tear
F	35	Pain after trauma	Fullness	6 mos.	Asymptomatic 4 mos.
F	55	Pain	Fullness	3 mos.	Asymptomatic 6 mos.
F	12	Pain	Fullness	1 yr.	Asymptomatic 4 mos.
F	18	Pain	Fullness	4 mos.	Asymptomatic 7 mos.
M	28	Pressure	Fullness	1 yr.	Asymptomatic 3 mos.
M	52	Numbness	Fullness	6 mos.	Lost to follow-up after 2 mos. Some return of sensation.
M	38	Radicular pain	Fullness	1 yr.	Asymptomatic 3 mos.
M	40	Pain	Fullness	1 mo.	Asymptomatic 1 yr.

fat, which although not excessively abundant was thought to be slightly increased in amount. The fatty tissue was not encapsulated or hemorrhagic, and the biopsy of this tissue in 3 cases was reported to be "negative fibrofatty tissue."

In each of these cases the tight fascia was incised and left open. Part of the fat pad in some instances was stripped away from the neurovascular bundle, and closure of the wound was usually limited to the superficial subcutaneous tissue and skin. Nine of the 12 patients were followed for at least 3 months postoperatively. They had complete resolution of their symptoms. One patient was lost to follow-up after 2 months but during that time was noted to be improved in that his preoperative numbness was subsiding. One patient was having occasional symptoms and is being followed with the thought of an eventual arthrotomy for a probable torn medial meniscus.

Summary

The experience of the Orthopedic Department of the Washington Hospital Center during a 5-year period of popliteal fossa explorations has been reviewed. Thirty-seven explorations disclosed 24 Baker's cysts, 1 tumor (synovial sarcoma), and 12 cases of the "popliteal-space syndrome," which has been described as to its operative findings and probable pathologic anatomy.

References

1. DE PALMA, A. F.: Diseases of the Knee. Philadelphia: Lippincott, 1954, p. 532.
2. BAKER, W.: St. Bartholomew's Hospital Report. 1877, 13, 245.
3. LLOYD, A.: Report of 15 cases of popliteal-space syndrome, presented at the Annual Session of the American Medical Association, held in Atlantic City, N.J., June 11-15, 1951.

Psychophysiologic Aspects of the Connective Tissue Disorders*

JESSE RUBIN, M.D.†

AS AN INTRODUCTION to this topic, 3 factors will illustrate the importance of the psychophysiologic problem in the connective tissue disorders: First, Smyth,¹ in his exhaustive review of the field, stated that up to 40 per cent of all patients attending arthritis clinics in general hospitals are diagnosed as having "psychogenic rheumatism." Second, an increasing number of our medical colleagues are turning to psychiatrists for guidance with the rehabilitation aspects of the arthritic diseases.² Third, over the past 20 years earlier and simpler concepts of the relationship of personality to arthritis have given way to more complex ways of looking at the problem.^{3, 4, 5} These factors lead us to ask, What is the most fruitful way of viewing psychosomatic interactions as they occur in arthritis, from both a research and a clinical viewpoint? What follows is an attempt to explore some aspects of this question.

Theoretically, it is possible to organize one's thinking about these disorders around any one of 4 types of models.

tional and physical manifestations of the disease as coming from a single common source, and the next model evolved.

Figure 1-b represents the following position: The psychologic problems of a person suffering from rheumatoid arthritis are secondary to his somatic illness. Such a model would lead to the following kind of statement about a patient: "The reason for this patient's suicidal depression is that he has had a crippling degree of rheumatoid arthritis for the past 2 years." Adherents of this view will allow that there is a feedback from psychic to somatic (illustrated by the broken arrow in the figure), usually in terms of the recognition of day-to-day stress as contributing to the severity of the physical symptoms.

During the last 35 years a third way of thinking about arthritis has been developed by dynamically oriented psychiatrists,^{6, 7} and is illustrated in figure 1-c. This is the same as figure 1-b but with the arrows reversed. This third approach says that a patient develops arthritis as a result of

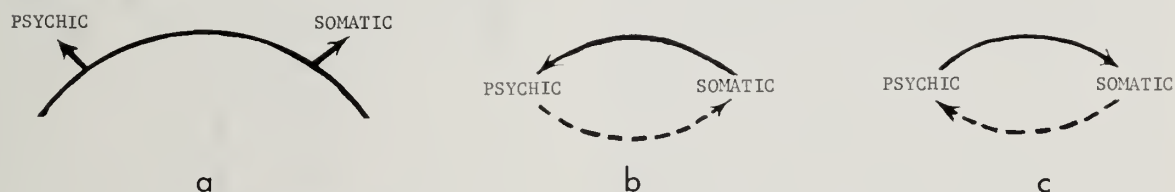


FIG. 1. Three models of psycho-somatic interaction.

The first model is illustrated in figure 1-a. This says that the somatic and psychic manifestations of an illness are both secondary, symptomatic aspects of a single underlying process.³ This is a simple, early model. Its usefulness broke down with the rapid development of clinical medicine over the last 100 years. Because there seemed to be so many facets of arthritis to keep in mind it became rather difficult to think of all the emo-

having a specific emotional problem and a particular kind of personal history. The dotted line in this figure indicates the recognition on the part of the psychogenic thinker that having a severe crippling disease will have a secondary effect on the psychic apparatus.

Illustrative of this kind of approach is figure 2, which is derived from Alexander's book, "Psychosomatic Medicine."⁶ Alexander believes that early family conflicts lead to a certain kind of personality structure which causes increased muscle tension, which in turn leads to the development of arthritis. Another illustration of this

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approach is from a recent article by Moos and Solomon⁸: “Arthritics definitely showed more compliance and subservience, nervousness and restlessness, depression and sensitivity. . .tended to be more masochistic and self-sacrificing, emotionally labile, compulsive and perfectionistic. . . .A

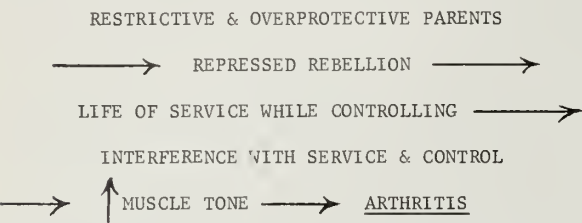


FIG. 2. “Specific dynamic pattern in rheumatoid arthritis”—Alexander.⁶

likely hypothesis is that a particular type of personality constellation combined with chronic or acute life situations which are particularly stressful to individuals with this personality constellation predisposes to the development of rheumatoid arthritis in individuals who already have some genetic or constitutional predisposition.” Thus, while acknowledging the presence of the dotted line feeding back from somatic to psychic (in terms of a constitutional predisposition) the authors place etiologic emphasis on the arrow going from the emotional to the somatic.

Before introducing the fourth model, let me illustrate some of the difficulties in the previous ones by reference to 2 case histories. The first involves a 21-year-old Negro male who was admitted to the George Washington University Hospital on September 21, 1963. The admission note stated that the patient was having a flare-up of arthrititis. Besides an 8-year history of Boeck’s sarcoid, systemic lupus erythematosus had been diagnosed several years before admission, and he recently had had consistently a positive L.E. test. Recently he had undergone several life stresses including the pregnancy of his girl friend, which resulted in a hurried marriage, and an inability, due to illness, to carry on with work that was appropriate to his level of technical training. Two days prior to admission he had begun acting strangely and praying excessively. There was some question of his ingesting up to 3 times his prescribed dose of steroids. He developed progressive confusion, erratic behavior, and disorganization. On admission to the hospital he had physical stigmata of Cushing’s disease as well as arthritis. He was autistic, withdrawn, inappropriate, circumstantial, and probably hallucinating. In addition to these signs of a schizophrenic-like process, he also

had difficulty with remembering numbers and a deficit in recent memory, indicating the presence of an acute brain syndrome. (The signs and symptoms of a confused state which is due to grossly disturbed brain function differ in a number of ways from the signs and symptoms of a functional psychosis such as schizophrenia.⁹)

Here is a patient suffering with a complex series of problems. He had a psychologic predisposition, as well as a family constellation, which might lead us to expect a schizophrenic illness. He also had lupus erythematosus as well as Boeck’s sarcoid. In addition, he had an acute brain syndrome, possibly due to steroids.

How are we to think of this case when applied to the models that we have already discussed? Isolating either a psychic or an organic etiology would not be helpful when applied to a case of this complexity. However, the kind of model illustrated in figure 3 might be utilized.

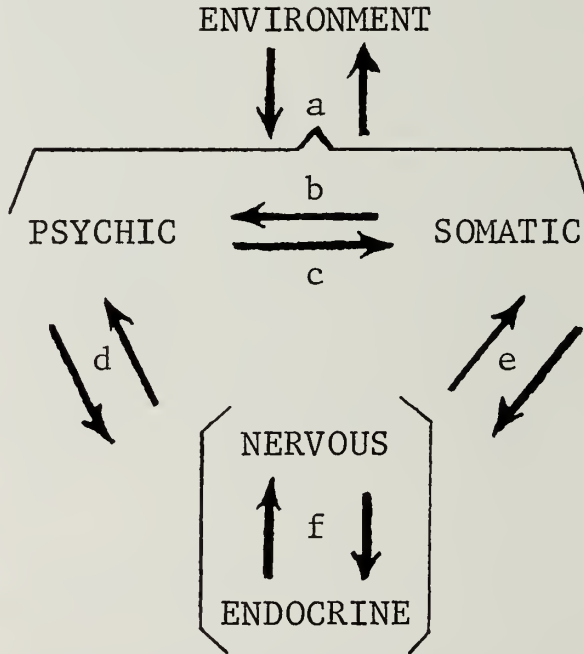


FIG. 3. Field theory model of psycho-somatic interaction.

This is a diagram of several systems in a field. The arrows all point in both directions, which is a way of saying that the attempt to search for an etiology in explaining the course of the illness has been abandoned in favor of looking at a series of interacting parts of a field with feedback circuits. These are constructed such that when one area goes wrong it will influence all the other areas. This sort of model has led to productive work over the last decade in the hands of a number of workers.^{3, 10, 11}

To return to our clinical example (figure 4), here was a boy under certain kinds of environmental pressures. He was taking too much steroid because he thought he would not be able to perform at a job adequately. He had taken on the responsibility of fatherhood and marriage, which he was ready for neither emotionally nor physically. These environmental pressures led to a defensive breakdown in the psychologic sphere, which in turn increased his panic and multiplied the pressures he was living under. At the same time a physical set-back occurred, which fed into the psychologic breakdown. The sarcoid and/or the lupus were reactivated, his joints flared up, and he became progressively more fatigued. Finally, the entire system broke down, and we find him totally disorganized and hospitalized.

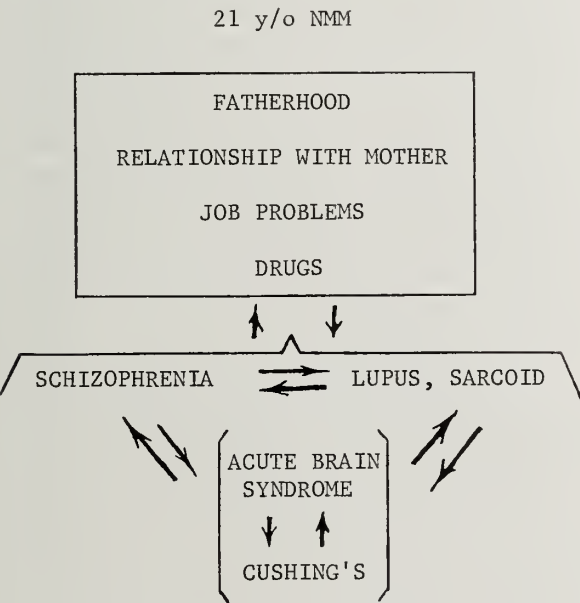


FIG. 4. Case 1. The psychosomatic field

Treatment in this case was relatively successful through a combination of psychologic, physical, and environmental manipulations. Thinking about him in terms of the field was helpful in that the more purely psychologic difficulties were separated from those mental symptoms which were due to the influence of an imbalance in the physical sphere. The signs of the organic brain dysfunction cleared up within a week or so, while the signs of schizophrenia persisted for about 6 weeks.

Our second case is that of a 62-year-old white single woman who had always lived alone, a rather sheltered and self-centered existence. Two years prior to admission she retired from a government job which she had held for 30 years. The job had been the sole focus of her life and her only means

of social contact. In the 2 years since she retired she had developed not only minimal objective signs of arthritis but severe symptoms of a depression which she focused onto her joints. She felt that she could not leave her apartment at all, that she had to give up a normal life, and that she must go into a nursing home. She complained of intense pain, said she never slept, etc. In general, her whole life, which previously had been taken up with her work, now centered on the minor pathologic processes in her joints.

One would tend to think about this lady as someone with psychogenic rheumatism and with little or no "real" physical problem (figure 5).

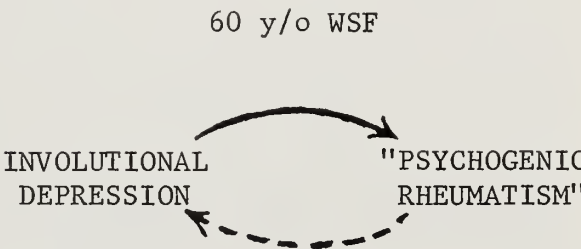


FIG. 5. Case 2. In terms of model depicted in figure 1-c.

However, if one studies a patient such as this closely and does a careful psychologic testing, certain difficulties arise which cannot be accounted for by this hypothesis. Specifically, on mental-status testing she showed some of the same signs of an acute brain syndrome as did the first patient. She had difficulty with recent memory and handling numbers, and had certain peculiarities of thinking which one could not attribute to her psychologic problems.

However, by discarding the idea that she had a purely psychogenic illness and thinking about the various components in the field and how they had become disorganized, the picture of this patient's illness emerges as a manifestation of a difficulty in her entire psychophysiologic operation (figure 6).

Referring back to the original model (figure 3), we may look at arthritis and the connective tissue disorders to see how much is known about each part of the field. We may start at the top, with the interaction of the person as a whole with his environment. Various series report instances of environmental stress prior to the onset of rheumatoid arthritis as between 14.5 per cent¹² up to 100 per cent in the more psychoanalytically oriented studies.¹ Specifically, it has been written that loss of an important role in life⁶ or inability to separate from the mother¹³ has a great deal to do with the onset of rheumatoid arthritis. Other common en-

vironmental factors mentioned in reviews by King¹⁴ and by Moos⁸ are business failure, surgery, pregnancy, and poor sexual adjustment. The effect of upward social mobility and the stresses and strains attendant on moving up the social ladder should also be considered. On the other hand, the Empire Rheumatism Council study¹⁵ reported that a matched set of control patients had the same number and types of environmental stresses as a group of arthritics.

The feedback of the patient to his environment is well illustrated by our case of lupus. Here, the patient's progressive disability led to a deterioration of his relationships with his wife and mother.

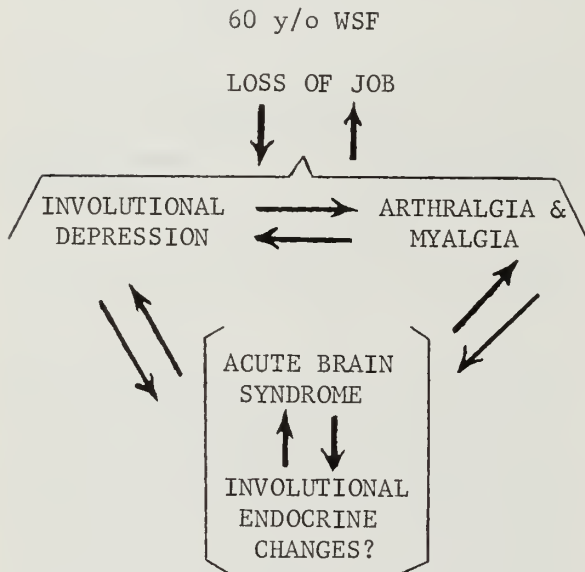


FIG. 6. Case 2. The psychosomatic field.

Therefore, in a sense, he created a more negative environment for himself. Finally, another feedback circuit should be mentioned as important in the patient-environment field. This is the effect of the patient on the doctor and vice versa. As with all chronic diseases, the attitudes of the doctor and patient toward each other may have a great deal to do with the outcome of the disease. For example, the subtle ways in which some arthritic patients sabotage the doctor's attempts to help them and the resulting frustration on the part of the doctor may have a profound effect on the course of the illness.

We move now to parts of the field which occur within the individual. The most detailed studies of the influence of the psychic sphere on the somatic (figure 3) have been done by Johnson, Shapiro and Alexander^{6, 16} (figure 2), and by Ludwig.¹⁷ The latter thought that rheumatoid

arthritics demonstrate immaturity, inadequacy, weak ego structures, passive-aggressive traits, and severe anxiety. In addition, Bush and Felts¹⁸ have commented that the rheumatoid arthritic often seems to be a rather depressed and hopeless kind of person.

A final point in this regard has to do with the studies of Sainsbury¹⁹ and Shagass²⁰ which showed a rise in striated muscular tension without awareness by the subject of this tension when feelings of anxiety and hostility were aroused. This is the mechanism which Alexander invokes in his theory, and it is well to note that some experimental evidence for this exists.

The effects of the somatic sphere on the psychic (figure 3) have to be sorted out into 2 categories. First, what in general are the effects of a long-term, chronic, crippling disease? Does one expect the psychologic orientation of someone chronically in pain or suffering from deformities to be different from the way that same person would react if he were physically well? If so, in what ways? Second, what are the specific effects on mood and outlook of having arthritis as opposed to some other crippling disease, such as multiple sclerosis or chronic cardiac difficulty? For example, the trouble arthritics have in openly expressing anger may be the result of their physical need to inhibit muscular, aggressive movements.²¹

Another possible effect of the somatic area on the psychic is that arthritis may protect the patient against psychosis. King¹⁴ found only 3 cases of arthritis out of a reported 9,000 psychotic hospitalized patients, well below the expected rate. Smyth,¹ however, disagrees with King's findings.

To move on, what effect do the psychic and somatic states have on the central nervous and endocrine systems (figure 3)? If we are dealing here with a group of patients who have settled into a chronic state of depression and helplessness, we may observe that the patients perform at a much lower level than their natural "constitutional," "organic" central nervous system endowment calls for. On the other hand, any influence of the disease on the central nervous system may in turn lead to a breakdown of psychologic defenses so that the patient regresses to a more primitive way of dealing with life. In a study by Lewis²² 7 of 13 patients with rheumatoid arthritis had abnormal electroencephalograms, 4 of 13 had abnormal spinal fluids, and 7 of 13 had grossly abnormal findings on psychologic tests. Hence, a rheumatoid arthritic probably has some changes in his central nervous system which will interfere with his psychologic and intellectual functioning.

With regard to the endocrine system, 3 aspects of the problem deserve brief mention. First, Smyth¹ discussed at great length the effect of the disease on the pituitary-adrenal axis, and Bush¹⁸ speculated that the daily output of steroid interacts with the disease to produce a vacillating symptom picture. Second, there is a close correlation between the onset of menopause and that of "psychogenic rheumatism." Third, the effects of endogenous and exogenous steroids on the psychic state are well known.

The importance of utilizing all these feedback circuits in thinking about connective tissue disorders is emphasized by some unpublished observations of Brown.²³ He thought that arthritides and patients with lupus often do not show a personality difficulty compatible with a diagnosis of either functional or organic psychoses, but that the interaction between the disease process, the central nervous system, and the psychologic fields has produced a unique mental status. For example, Brown described violent mood swings which occurred rapidly in these patients. Depression of the magnitude we see in arthritides would take many weeks to develop and resolve if it were on a purely functional basis. Yet patients with rheumatoid arthritis show the resolution of these mood swings within an hour or so. They also show signs suggestive of poor brain function, but often these are quite subtle. Our current research has as one of its objectives the clarification of this picture.

What are the difficulties in the use of this last model (figure 3)? The problem is that this model is more complicated than the earlier ones presented. From a research point of view one must deal with a massive amount of data. As Grinker³ said, "Such an approach requires the detailed analysis of quantity, timing, and reciprocity of function of many parts which accomplish integration, furnish substitutive emergency functions, and delay, resist, or modify disintegrating forces . . . the inability of any one investigator to describe and measure more than a single aspect of this field makes it necessary for him to work with other investigators."

How can we cope with this mass of data? One approach is to work in a multidisciplinary team with computer techniques. At the George Washington University Hospital we are engaged in an attempt to do this sort of study with Drs. Brown, Bush and Felts of the Department of Medicine. We are studying patients retrospectively, trying to determine what their life history has been, and then cross-sectionally at 6-month intervals for 3 years. A team of internists, radiologists, physiatrists, a psychiatrist, a psychologist,

a social worker, and various research assistants studies the patient from a variety of angles. We then try to correlate the data to see what bits of information seem to be in a covariant relationship. We would hope eventually to clarify and simplify the model and see what the significant relationships are.

The second issue raised by the model is one of clinical management: Must the patient be cut into little segments, each studied by a different expert, and if so, do we not lose something by this procedure? One practical issue, for example, is when and how to obtain psychiatric consultation.

In this regard, Brown²⁴ has stated, "The major warning which I offer to those who may seek to reduce medicine to independent management of its segmental components is related to the progress of medicine itself. This segmental thinking, if carried to its logical conclusion, will lead to fewer and fewer individuals capable of visualizing the whole." Along these lines, a useful way for the attending physician to approach the issue of psychiatric consultation might be that such consultation would be primarily to provide more data for the physician and to help him deal with his patient's illness (i.e., the total field). This avoids the implication to the patient that he has a psychogenic disease, is mentally disturbed, and/or needs prolonged psychiatric treatment, none of which will prove to be true in a majority of cases. Concerning this issue, Tumulty²⁵ has written, "When confronted with a difficult diagnostic problem in which there appears to be a complicated interplay of organic and emotional factors, a psychiatric consultant may be of help in enabling the physician to come to a properly balanced conclusion."

A discussion of our early findings about the specific differences between the components of this field as it exists in rheumatoid arthritis, lupus, other forms of connective tissue diseases, osteoarthritis and rheumatic fever would be premature at this time. We hope that the studies in which our group is engaged will define how the fields differ in each of these diseases, and whether there are any common elements which mark these fields off from those of other psychosomatic illnesses.

References

1. SMYTH, C. J.: *Ann. Intern. Med.*, 1959, **50**, 633.
2. SEIDENFELD, M. A.: *Arthritis and rheumatism*, in Garrett, J. P., and Levine, E. S.: *Psychological Practices with the Physically Disabled*. New York: Columbia, 1962.

(Continued on page 104)

Endometriosis

With Special Emphasis on Lesions of the Colon (Sigmoid, Rectosigmoid and Rectovaginal Septum)

J. KEITH CROMER, M.D., F.A.C.S.*

ENDOMETRIOSIS is the Svengali of medicine. It is the only benign condition completely hormone-dependent, occurring spontaneously in human primates during the active menstrual life and with the ability to mimic cancer. It can invade, metastasize, destroy organs, produce obstruction of the bowel and/or ureter, and at times appear as isolated lesions in the pleura, kidney, umbilicus, groin, arm, thigh, bladder, and perineum. Cessation of its growth follows menopause or removal of the ovaries.

Since the disease was first described in the early part of the 19th century by von Recklinghausen and Thomas Cullen great interest has been shown in the problem of endometriosis. Added emphasis was given to its study in 1921 when Samson's work first appeared. At that time he initiated the concept of endometriosis resulting from tubal regurgitation of menstrual blood containing viable fragments of endometrial tissue. Most of our present thinking about the histogenesis of the disease stems from this concept. It applies to external endometriosis as opposed to the internal form referred to as adenomyosis, in which the growth is confined to the wall of the uterus. As a satisfactory explanation for the development of pelvic endometriosis, Samson's theory is the most widely accepted one at the present time.

There is no unanimity of opinion as to the true pathogenicity of endometriosis. The reason for involvement of the bowel still remains an enigma. The theory of benign metastasis, as mentioned by Samson and propounded by Halban and Javert,¹ best explains the development of endometriosis of the colon. This theory presupposes that all endometriosis begins by invasion of the myometrium by endometrium. Secondary spread to extra-uterine structures occurs as cancer spreads, either by direct extension or by blood- and lymph-borne metastasis.

Whatever the true nature of the disease, there is ample support for the theory that endometriosis is on the increase in white women of childbearing age in the middle and upper socioeconomic groups in the United States. It is universally agreed that approximately 30 per cent of all women 40 years of age undergoing pelvic surgery show some evidence of endometriosis. Some investigators believe that controlled studies, if at all possible, would reveal that all women have endometriosis by the time they reach the menopause. A brief perusal of the current literature suggests a similar validity for endometriosis of the colon.

Jenkinson and Brown² concluded from their studies that 8 to 15 per cent of all women during active menstrual life have endometriosis, and of these approximately 25 per cent have involvement of the rectosigmoid colon. Colcock and Lamphier³ report an incidence of 18.3 per cent for endometriosis of the rectum, rectosigmoid, sigmoid or small bowel in 213 women who underwent surgery for endometriosis. Kratzer and Salvati⁴ found some degree of bowel involvement in 34.2 per cent of 225 cases studied for endometriosis. The rectum and rectosigmoid were most frequently involved, accounting for 70 to 80 per cent of the reported cases. Whatever the true frequency for involvement of the colon may be, it is generally agreed that it does occur more often than is commonly accepted.

The gross lesions of pelvic endometriosis, so characteristic of the disease, are known to all workers in this field and need no elaboration here. However, a brief description of lesions of the colon will be presented at this time.

Endometriosis of the colon may appear as small, isolated implants or plaques on the serosa, or as a firm, hard tumor involving the wall of the bowel, the so-called endometrioma; or it may develop as a diffuse infiltration of a wide section of the bowel wall.

Any involvement of the bowel wall, either by surface implants or by infiltration of the bowel wall, may produce some degree of partial or com-

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plete bowel obstruction, the former by adhesions as part of a widespread pelvic involvement, the latter by compression of bowel lumen. Involvement of the bowel wall may suggest an inflammatory process or a malignant growth. The differentiation of cancer of the colon from endometriosis is at times extremely difficult—indeed, next to impossible short of biopsy.

The diagnosis of pelvic endometriosis is based largely on the symptom-triad of dysmenorrhea, dyspareunia, and painful defecation just before and with the menstrual flow. When these symptoms are coupled with the clinical findings of painful nodule behind the cervix, thickening in the uterosacral ligament, adherent retroversion, and enlarged adnexal mass, the diagnosis of endometriosis is usually confirmed. The diagnosis of endometriosis of the colon alone, or in combination with pelvic endometriosis, is an entirely different matter and not an easy one to make.

When endometriosis involves the bowel, symptoms are present. These may be of only minor annoyance to the patient or completely devastating. The clinical picture seldom parallels the amount of bowel involvement. In addition, there is a history of progressive constipation, usually of long duration, and periodic attacks of colicky premenstrual pain in the lower abdomen.

Barium enema studies offer little help in establishing the diagnosis of endometriosis of the colon, except to confirm a clinical impression that colon involvement may be present. Since endometriosis of the colon rarely involves the bowel mucosa, little is to be seen through the sigmoidoscope except an area of puckering. Rarely will one see the bluish spots so characteristic of vaginal endometriosis. Bleeding from the bowel is frequently listed as an associated symptom, with involvement of the rectum and rectovaginal septum. It is seldom seen in actual practice.

Given the present diagnostic tests, some difficulty will continue to exist in differentiating endometriosis of the colon from carcinoma. That endometriosis may exist in the bowel after menopause and that cancer of the colon may coexist add to the diagnostic confusion.

The means for maximum clarification, however, are at hand. A careful history and pelvic examination, combined with barium enema studies and

sigmoidoscopy, will usually establish the correct diagnosis.

The guiding principles in the management of pelvic endometriosis are (1) individualization of treatment, (2) conservation of ovarian function, and (3) preservation of the childbearing function in women of childbearing age. In actual practice and with these principles in mind, selective surgery is the watchword and conservative surgery the major objective in the surgical treatment of pelvic endometriosis.

For endometriosis of the colon, simple excision of implants and small endometriomas may suffice. For obstructive lesions of the colon, a resection is the preferable method of treatment. Surgical castration and watchful expectancy in the hope that the lesion will regress, as advocated by Jenkinson and Brown² and Scott and TeLinde,⁵ at one time may have been considered ideal treatment. The routine employment of surgical castration is no longer the accepted form of therapy for either endometriosis of the bowel or endometriosis of the pelvic viscera.

By design this paper is limited to consideration of the role of surgery in the treatment of pelvic endometriosis and endometriosis of the colon. A broader concept of the management of the problem of endometriosis would include a description of the influence of pregnancy on the disease and the conservative management of the problem by the use of hormones. Time does not permit a discussion of these topics in this paper, but they should be considered in the overall management of patients with endometriosis.

References

1. JAVERT, C. T.: Observations on pathology and spread of endometriosis based on theory of benign metastasis. *Amer. J. Obstet. Gynec.*, 1951, **62**, 477.
2. JENKINSON, E. L., AND BROWN, W. H.: Endometriosis; study of 117 cases with special reference to constricting lesions of rectum and sigmoid colon. *J.A.M.A.*, 1943, **122**, 349.
3. COLCOCK, B. P., AND LAMPHIER, T. A.: Endometriosis. *Ann. Surg.*, 1950, **131**, 507.
4. KRATZER, G. L., AND SALVATI, E. P.: Collective review of endometriosis of colon. *Amer. J. Surg.*, 1955, **90**, 866.
5. SCOTT, R. B. (Baltimore), AND TELINDE, R. W.: External endometriosis—scourge of private patient. *Ann. Surg.*, 1950, **131**, 697.

Head Injuries "Then and Now"

or

Diagnosis and Treatment of Head Injuries 1939 versus 1965*

WILLIAM T. SPENCE, M.D., F.A.C.S.†

THE MEDICAL PROFESSION and in recent years the neurosurgeon have been looked to for progress with the times, and indeed they have progressed. Unless others share in the responsibility, however, the Grim Reaper will claim an increasing number of patients who are victims of their own actions and of modern inventions.

Take the boy who recently fell from a tree. He struck his head on cement and was fatally injured. His father fell from the same tree when a youth, struck only dirt and survived. The general lowering of standards of discipline among young people is not primarily the responsibility of the neurosurgeon, yet parents and lawmakers look to us to create miracles of cure to compensate for their inadequacies, lack of courage, or laziness. Four young people were killed recently in a small compact auto, whereas the truck driver involved in the collision was uninjured. A well-trained foreign service officer was rendered paraplegic in an automobile accident when the back of the rear seat of a popular German car catapulted forward on impact, striking his neck. An official agency inquired frequently about him, but did not answer the author's letter asking why this and other foreign car manufacturers are not made to comply with the same safety factors insisted upon by the American College of Surgeons and finally accepted for American automobiles.

The high speed auto on race track surface roadways has caused an increased incidence of head injury in the category that cannot be cured. This group has been referred to differently in various classifications (Group III)¹ but essentially comprises those patients who are instantly unconscious and remain so in spite of heroic efforts until death. They account roughly for about 5 per cent of head injuries that get to a hospital.

It has become more and more apparent that the

diagnosis and treatment of head injuries must be improved to stay ahead of this devastating onslaught. We must interrogate ourselves and see if we are "keeping up with the times." This presentation, therefore, is titled: "Head Injuries 'Then and Now' or Diagnosis and Treatment of Head Injuries 1939 versus 1965."

The same mechanisms of head injury exist now as then (table 1). Russian roulette is not bruted

TABLE 1: Change of Status in Head Injuries Since 1939

Types	No change
Incidence	Increased 12 per cent
Cause	Increased, principally due to auto accidents
Mortality	Increased 3 per cent (mostly in Group III)
Number of neurosurgeons	Less than 100 in 1939; now more than 2,000
Number of neurosurgical residents	Less than 25 in 1939; now more than 400

about, but self-inflicted gunshot wounds secondary to increased tensions are multiplying. Because politicians have managed to "snaflu" the peaceful world handed them at the end of World War II gunshot wounds of the head are again on the ascendency in our Armed Forces abroad.

Barr¹ has classified head injuries into 3 groups—Group I, simple concussion; Group II, a severe injury with progressive improvement; and Group III, a severe injury in which improvement is halted. This will be adequate for our purposes.

Despite a large increase in head injuries the mortality has been kept low except in Group III. It is principally the improvement effected in Group II, with its low overall mortality, that is a source of pride. This has outstripped anything the lawmakers and the public conscience have accomplished. Neurosurgeons have done the following in bringing about this improvement:

1. Trained students, nurses and house staff in increasing numbers.
2. Doubled the number of neurosurgical residents every 5 years.

* Chairman's Address delivered before the Section on Neurosurgery of the Pan American Medical Association in Miami, Fla., April 30, 1965.

† Senior Attending Neurosurgeon, Washington Hospital Center, Washington, D. C.; office: 1234 19th Street, N.W., Washington, D. C. 20036.

3. Produced over 1,000 well-trained neurosurgeons covering the emergency rooms and hospital wards (both city and private) in every part of the United States (most of this without financial compensation).

4. Developed new methods of diagnosis and treatment, discarded the bad and kept the good.

The status of head injuries has certainly undergone change (table 1). By meticulous history and examination we did in the past (tables 2 and 3)

TABLE 2: Aids to Diagnosis of Head Injury in 1939

Observation of vital signs—carefully done
X-ray films of skull—not always done
Spinal tap—very frequently done
Percussion of skull—frequently done
Ventriculography—frequently done
Pneumoencephalogram—often done
Exploratory burr holes—frequently done

TABLE 3: Head Injury Treatment in 1939

Débridement and surgery for the open wounds—routine
Intravenous glucose for dehydration—almost routine
Ice water and alcohol baths—used frequently
Subtemporal decompression—done frequently
Trephination for hematomas—done frequently
Ventriculography—done frequently
Spinal tap—done very frequently

TABLE 4: Aids to Diagnosis of Head Injury in 1965

Observation of vital signs, not as carefully as in 1939
X-ray films of skull—routine
Spinal tap—infrequently done
Echoencephalogram—frequently done in all large hospitals
Arteriography—frequently done
Ventriculography and pneumoencephalograms—rarely done
Exploratory burr holes—rarely done
Electroencephalogram—frequently done
Radioactive scan—frequently done

what the machines we have developed now do better. A large part of successful treatment has resulted from improved diagnostic methods (tables 4 and 5) which have kept pace with, and possibly advanced further than treatment.

Proper splinting of the brain was emphasized by Dr. W. James Gardner,² and Dr. O. H. Fulcher,³ of Washington, developed tantalum for this purpose. Later, I⁴ developed cranioplastic material for the same purpose. This material is now widely used to repair skull defects (table 5) and, in fact, has successfully occluded cerebrospinal fluid fistulae that resisted other methods in

the past. Together with proper use of antibiotics it saves many lives previously lost in this category.

Carotid arteriography was a big contributor in the diagnosis of intracranial pathology.⁵ The management of head injury has shared in this benefit, which will probably increase. Since neurosurgeons have blazed the trail, many outlying community hospitals can survey the head injury patient with a brachial arteriogram done by the general surgeon. He, by the way, treats the largest number of head injuries of Group II, which is where the gains in mortality are to be made. Doctors trained in carotid arteriography can, further, demonstrate discrete lesions if more specialized study is indicated. The general surgeon should promptly refer to a neurosurgeon the patient in whom recovery is halted.

TABLE 5: Improved Services and Facilities for Treatment of Head Injury in 1965

More trained nurses (intensive care units)
Neurosurgical residents in every large hospital
Hypothermia
Use of urea and mannitol
Better neurosurgical operating-room facilities:
Use of more (electric) drill holes for more thorough exploration
Use of gel foam for hemostasis
X-ray films in operating room
Use of cranioplastic material for splinting skull defects
Earlier and better diagnosis (table 4)
Better operating-room setup and trained personnel for neurosurgical procedures
Treatment more often done by neurosurgeons

The radioactive scan has taken its place high on the list of important advances.⁶ It can be done without “upsetting the boat” for the critically ill patient if he can coöperate, and the department operating the scan can be persuaded to do it, often at odd hours. This device should always be a part of the neurosurgeon’s armamentarium and should never be used by the general medical or surgical doctor to make a diagnosis.

The sound wave⁷ is the latest device to explore the intracranial cavity. It has frustrated nature where heretofore she could hide the pineal gland by preventing its calcification in those patients in whom we most wanted to see it. This echoencephalogram shows beautifully and effectively a shift of the midline intracranial structures and indeed occasionally will outline the entire mass of an intracranial hematoma or tumor.

Treatment has seen many advances. We have devised methods to reduce brain fluid quickly and safely by such agents as mannitol and urea. With

the anesthetists we have developed techniques to keep the patient in hypothermia during critical periods⁸ and, indeed, some centers can cool the brain exclusive of the general circulation. Better operating room and intensive care units to treat the head injury in a more enlightened fashion have resulted from the efforts of all surgeons to improve and specialize. We have worked with anesthesia and fluid therapy departments to do a better job pre- and postoperatively. Not the least, we have continued efforts in rehabilitation by neurosurgical procedures of increasingly improved methods devised to treat pain, spasticity, and nerve repair. The use of the operating microscope has aided greatly in this improved technique of surgical nerve repair.

The treatment of "open head wounds" has not changed greatly since 1939 except for the development of materials such as coagulating agents, dural replacement grafts, and plastic for cranioplasty and fistulae. It is in the larger number of patients with the "closed head injury" in Group II who have symptoms and findings of a brain lesion on admission to the emergency room that the greatest gains are to be expected. These are the ones in whom recovery has halted or the course has become complicated or reversed. The Group I patient who is rendered unconscious but on admission to the hospital shows no symptoms or abnormal findings need not occupy us with more than a follow-up for a few days to be sure he is not developing anything more. If he does, 90 per cent of the complications develop in the first 24 hours.

We have retained the best of the past but continue to search for improvement. By our solid job we have justified our heritage in the management of head injuries. May others do likewise in preventing them or referring them in time.

References

1. BARR, J. B.: Head injuries in peripheral hospitals. *Lancet*, 1964, **2**, 519.
2. GARDNER, W. J.: Tantalum in immediate repair of traumatic skull defects: method of immobilizing wounded brain. *U. S. Naval Med. Bull.*, 1944, **43**, 1100.
3. FULCHER, O. H.: Tantalum as metallic implant to repair cranial defects; preliminary report. *J.A.M.A.*, 1943, **121**, 931.
4. SPENCE, W. T.: Form-fitting cranioplasty. *J. Neurosurg.*, 1954, **11**, 219.
5. THOMPSON, J. L. G.: Arteriography in head injuries. *Clin. Radiol.*, 1963, **14**, 339.
6. MORRISON, R. T., AND OTHERS: Scintencephalography for detection and localization of non-neoplastic intracranial lesions. *J. Nucl. Med.*, 1965, **6**, 7.
7. AMBROSE, J.: Pulsed ultrasound. *Brit. J. Radiol.*, 1964, **37**, 165.
8. MITSUNO, T., KANAYA, H., AND FUCHIZAWA, K.: Therapeutic hypothermia in head injuries. *Clin. Surg. (Tokyo)*, 1964, **19**, 5.

Connective Tissue Disorders—Rubin

(Continued from page 99)

3. GRINKER, R.: *Psychosomatic Research*. New York: Grove (Evergreen), 1961.
4. BARKER, R.: *Adjustment to Physical Handicap and Illness*. New York: Social Science Research Council, 1953.
5. FISHER, S., AND CLEVELAND, S. E.: *Body Image and Personality*. Princeton, N. J.: Van Nostrand, 1958.
6. ALEXANDER, F.: *Psychosomatic Medicine*. New York: Norton, 1950.
7. DUNBAR, F.: *Psychosomatic Diagnosis*. New York: Hoeber, 1943.
8. MOOS, R. H., AND SOLOMON, G. F.: *Psychosom. Med.*, 1965, **27**, 144.
9. American Psychiatric Association Diagnostic and Statistical Manual. Washington, D. C.: American Psychiatric Association, 1952.
10. MIRSKY, I. A.: *Psychosom. Med.*, 1957, **19**, 424.
11. ENGEL, G. L., REICHSMAN, F., AND SEGAL, H. L.: *Ibid.*, 1956, **18**, 374.
12. HARTFALL, S. J.: *Practitioner*, 1954, **172**, 29.
13. MARGOLIS, H. M.: Psychosocial factors in rheumatoid arthritis: considerations for the clinical management, in Talbott, J. H., and Lockie, L. M.: *Progress in Arthritis*. New York: Grune & Stratton, 1958.
14. KING, S. H.: *J. Chron. Dis.*, 1955, **2**, 287.
15. A Controlled investigation into aetiology and clinical features of rheumatoid arthritis; report by Scientific Advisory Committee of Empire Rheumatism Council. *Brit. Med. J.*, 1950, **1**, 799.
16. JOHNSON, A., SHAPIRO, L. B., AND ALEXANDER, F.: *Psychosom. Med.*, 1947, **9**, 295.
17. LUDWIG, A. O.: *Bull. Rheum. Dis.*, 1952, **2**, 15.
18. BUSH, S. W., AND FELTS, W. R.: Personal communication.
19. SAINSBURY, P., AND GIBSON, J. G.: *J. Neurol. Neurosurg. Psychiat.*, 1954, **17**, 216.
20. SHAGASS, C., AND MALMO, R. B.: *Psychosom. Med.*, 1954, **16**, 295.
21. SOLOMON, R. Z., AND SOLOMON, C. I.: *Conn. Med. J.*, 1949, **13**, 1027.
22. LEWIS, B. I., SINTON, D. W., AND KNOTT, J. R.: *Arch. Intern. Med. (Chicago)*, 1954, **93**, 315.
23. BROWN, T. McP.: Personal communication.
24. BROWN, T. McP.: *Texas Rep. Biol. Med.*, 1954, **12**, 577.
25. TUMULTY, P. A.: *New Eng. J. Med.*, 1960, **263**, 123.

Dyspareunia

Report of a Case Secondary to Vaginal Adenosis*

HERBERT L. KOTZ, M.D., F.A.C.O.G.†, OSCAR I. DODEK, JR., M.D.‡, AND RICHARD LEVIN, M.D.‡

THE CAUSE OF DYSPAREUNIA is frequently perplexing. Many times this symptom can be ascribed only to a psychogenic factor. Table 1 outlines the organic causes of dyspareunia. The

TABLE 1: Etiology of Dyspareunia

I. Psychic causes
II. Organic causes
A. Local
1. Rigid or imperforate hymen
2. Vulvitis, vaginitis, bartholinitis
3. Urethritis, skenitis, urethral caruncle
4. Endocervicitis
5. Painful hemorrhoids and anal fissures
6. Postoperative or postchemical vaginal stricture
7. Painful episiotomy
8. Senile vagina
(a) Postmenopausal
(b) Postpartum
9. Vaginal adenosis
B. Pelvic
1. Acute and chronic pelvic inflammatory disease
2. Pelvic endometriosis
3. Pelvic neoplasms
4. Prolapsed ovary

following is a case report of an infrequent but recently popularized entity-vaginal adenosis.

Report of Case

B. K., a 23-year-old gravida 0, married white woman, was first seen on April 27, 1966 for contraceptive advice.

The patient had started on Enovid E§ oral contraception shortly before marriage in June 1965. She desired a change to diaphragm contraception because of the side-effects of weight gain, headache, and tiredness.

Dyspareunia had been present since first coitus at the time of marriage. The pain was after entrance but not necessarily on deep penetration. Although the patient

was able to participate in normal sexual activity, the discomfort was of sufficient severity to decrease the frequency of desired coitus. There was no lack of libido, and the patient seemed very stable emotionally. She denied leukorrhea and other gynecologic symptoms.

Pelvic examination revealed a marital uninflamed introitus with a normal-sized clitoris and a normal female escutcheon. The Bartholin, urethral and Skene's glands were normal. The vagina was clean with a healthy mucosa except for 1 area approximately 3 cm. in diameter in the left posterolateral wall 3 cm. above the introitus. Here the mucosa appeared honeycombed and erythematous, and a tender cystic nodule 0.5 to 1 cm. in diameter was noted (figure 1). Careful examina-

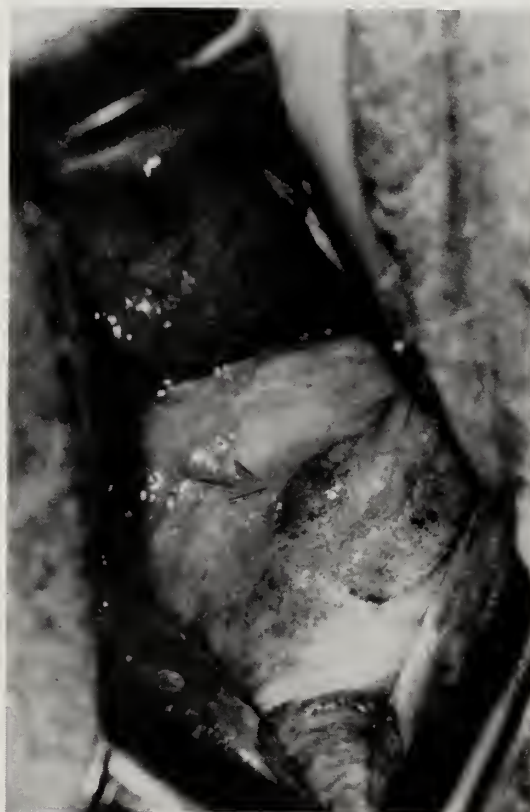


FIG. 1. Preoperative gross picture of cystic and occult vaginal adenosis. Arrow points to 1 cm., tender, raised cystic lesion.

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§ A product of G. D. Searle & Co., Chicago, Ill.

tion localized the discomfort to this area, and pressure on or stretching of the nodule reproduced her symptoms. The cervix was nulliparous and clean; the uterus was

normal in size, shape and position; the adnexae were palpable and normal, and the rectovaginal-abdominal examination was confirmatory of the above findings.

A preoperative diagnosis of vaginal adenosis was made, and excisional biopsy after the next menstrual flow was advised. Because of persistent amenorrhea following the cessation of oral contraceptives¹ menses were induced with medroxyprogesterone, 10 mg. daily for 5 days.

Biopsy was performed on July 20, 1966. It was possible to reapproximate the vaginal mucosa, and the patient's postoperative course was benign.

Relations were resumed 3 weeks postoperatively and there was no discomfort.

Microscopically (figures 2 and 3) the biopsy showed slightly thickened mucosal epithelium of stratified squamous type with numerous small and dilated glands within the lamina propria. These glands were lined by

diastase digestion; and it demonstrated metachromasia when stained with toluidine blue. PAS stain revealed no basement membrane around the glands. These findings are identical to those seen when endocervical glands are studied in this manner; however, histochemical similarity is not proof of histogenesis. Therefore, while the glands exhibit the characteristics of supposed müllerian duct glands in the endocervix, their origin from müllerian duct remnants remains purely hypothetical.

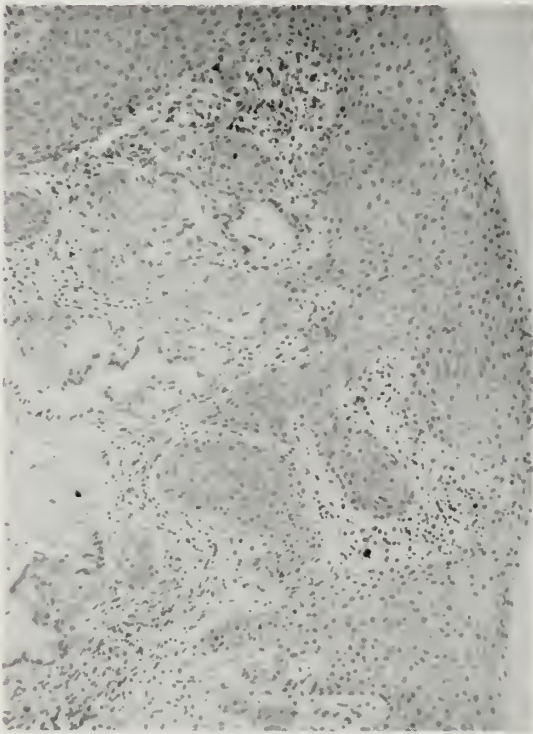


FIG. 2. Vaginal mucosa, showing transition of squamous epithelium to glandular elements lined by tall columnar cells.

tall columnar to cuboidal-type epithelium similar to that of endocervical glands. In some areas the glandular elements appear to be arising by metaplasia (prosoplasia) of the overlying squamous epithelium with actual openings to the surface of the mucosa. A moderate degree of chronic inflammation was present throughout the lamina propria. The picture was that of cystic vaginal adenosis.

The material within the glandular epithelium and in the lumens stained positively with mucicarmine, alcian blue, and PAS stains, and they were not removed by

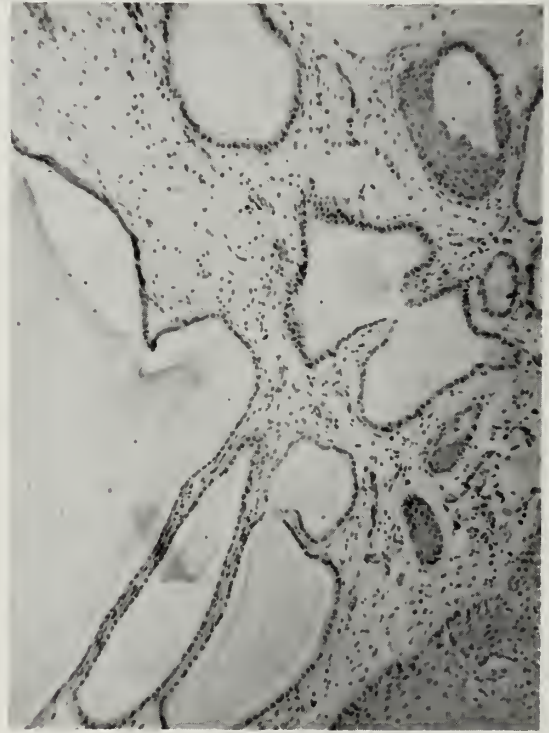


FIG. 3. Cystic glandular areas containing mucinous material.

Comment

Glandular structures in the vaginal submucosa have been described since 1877.² Names for this condition have included adenomatosis,³ adenosis,⁴ and gland-cell prosoplasia.⁵ It is generally stated that these cells are müllerian in origin since both are mucicarmine-positive and have PAS-negative basement membranes. However, this has not been proven.

The 3 most promising histogenetic concepts outlined by Sandberg et al⁶ are as follows:

1. Embryologic development and subsequent persistence of fully developed müllerian glands in the vaginal subepithelium.

2. Postembryonic persistence of individual undifferentiated subepithelial müllerian cells in the subepithelium which under certain unknown stimuli later in life differentiate and form endocervical-like glands.

3. Metaplasia of subepithelial mesodermal non-müllerian connective tissue cells or metaplasia of nonbasal squamous epithelial cells to cylindrical cells.

Clinically the condition appears confined to the reproductive age-group. Parity does not seem necessary for the development of adenosis, nor does multiparity increase its likelihood. No particular location is characteristic of the condition; it may be diffuse or have multicentric foci. Too few cases have been observed to resolve the question of whether adenosis is a progressive lesion. It is not considered premalignant, but 9 cases of adenocarcinoma arising in adenosis (at least 1 resulting in death of the patient) have been reported.⁶

When symptomatic, leukorrhea and dyspareunia are the most common complaints. In 1 case the excess discharge was mistaken for urinary incontinence.⁷ In the case presented here careful pelvic examination easily localized the site of vaginal discomfort to the cystic nodule. Although it was difficult to be certain, it was our impression that pressure on the erythematous honeycombed area produced tenderness only by distortion of the nodule.

Sandberg et al⁶ have just recently reviewed 45 cases of benign vaginal adenosis reported in the world literature. On this basis they were able to classify the condition into 4 main groups—occult, cystic, effluent, and adenomatous.

The term "occult" signifies the presence of quiescent noncystic glandular elements in the submucosa detectable only histologically.

In the cystic type there is accumulation of mucinous material in the glands. Since the glands are subepithelial (superficial to the muscularis) the cyst always protrudes into the vagina. The symptoms are related to the size of the mass and may include dyspareunia.

In the effluent type the cylindrical cells of the vaginal subepithelial glands replace squamous epithelium and may produce red glandular ulcer-like patches giving a honeycombed appearance. The main problem is excess leukorrhea, but localized warmth or pain may occur.

Localized overgrowth of glandular epithelium and supporting stroma may also occur, and this is the adenomatous type. The symptoms are identical to that of papillary or craterous lesions of other etiologies. Combinations of the above are the usual finding, and our case is representative of the cystic and occult types.

The treatment of vaginal adenosis is an unsettled question, but several theoretically effective measures have been suggested. Certainly a localized and symptomatic area should be excised. Linear cautery has not to our knowledge been tried, but silver nitrate applied at weekly intervals has been reported effective in some cases. Endocrine therapy has been of no value. Where a diffuse and symptomatic lesion requires total vaginectomy, replacement of the vagina by skin graft has been proposed.

Summary

The causes of dyspareunia have been outlined, and a successfully treated, preoperatively diagnosed, case of vaginal adenosis has been presented. The current histogenetic concepts, the clinical classification, the symptoms, and the treatment have been reviewed briefly.

References

1. KOTZ, H. L., AND DODEK, O. I., JR.: Oral contraceptives and infertility. *Med. Ann. D. C.*, 1966, **35**, 255.
2. VON PREUSCHEN: *Arch. Path. Anat.*, 1877, **70**, 111; cited by Sandberg and others.⁶
3. BONNEY, V., AND GLENDINNING, P.: *Proc. Roy. Soc. Med.*, 1910, **4**, 18; cited by Sandberg and others.⁶
4. PLAUT, A., AND DREYFUSS, M. L.: Adenosis of vagina and its relation to primary adenocarcinoma of vagina. *Surg. Gynec. Obstet.*, 1940, **71**, 756.
5. SIDERS, D. B., PARROTT, M. H., AND ABELL, M. R.: Gland cell prosoplasia (adenosis) of vagina. *Amer. J. Obstet. Gynec.*, 1965, **91**, 190.
6. SANDBERG, E. C., DANIELSON, R. W., CAUWET, R. W., AND BONAR, B. E.: Adenosis vaginae. *Amer. J. Obstet. Gynec.*, 1965, **93**, 209.
7. STABLER, F.: Adenomatosis vaginae. *J. Obstet. Gynaec. Brit. Comm.*, 1961, **68**, 857.



PRESIDENT'S PAGE

MISUSE OF HOSPITAL EMERGENCY ROOMS



THE USE AND ABUSE of hospital emergency rooms in metropolitan areas has become an increasingly significant aspect of medical practice in recent years. Originally designed primarily to provide bona fide emergency care, this facility has been maneuvered into spreading and spending its strength, acting in effect as night, holiday, and weekend outpatient service for weary or lazy doctors and selfish patients, to the point where its effectiveness in the performance of its basic function has been seriously compromised and diverted.

It is the responsibility of the profession to bring this wasteful and potentially dangerous situation under control. Patients should not be directed to emergency rooms unless this is the truly proper way to care for the complaint. Cases which are nonurgent and which can be evaluated and treated in the physician's office or in the patient's home should not be permitted to jam the facilities of the hospital emergency room, filtering off personnel and service from the genuinely acute problems.

The physician's role is obvious. He must assume personal responsibility for the care of his own patients outside the hospital emergency room whenever circumstances are appropriate. He must educate, instruct, and guide his patients in the proper utilization of this facility. By example he can influence his colleagues and by persuasion impress upon them the benefits inherent in a more intelligent and restricted use of emergency rooms. Let us take a long, hard look at the increasing misuse of a vitally important phase of medical care. Let us act—now, individually and collectively, to bring this situation into proper focus to the benefit of the really sick patient, the hospital, and the community.

Henry D. Eckert

New from Du Pont

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(Amantadine HCl)

The first oral chemical virostat for the prevention of influenza A₂



Influenza virus

*Protein shell enclosing
the core of nucleic
acid (RNA)—artist's
representation*

The incidence of influenza A₂. In this country, where influenza is one of the leading causes of morbidity, influenza A₂ (Asian) continues to be a serious medical problem. In 1957 influenza A₂ was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A₂ (Asian).

What is Symmetrel[®]? "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A₂ (Asian) viruses—an entirely new approach in preventive medicine.

For prescribing information, see last page of this presentation

What Symmetrel® (amantadine HCl) means to you

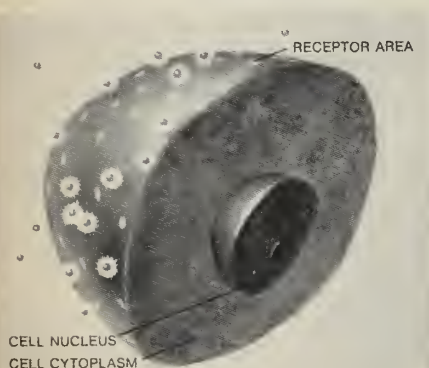
- ... the first and only oral chemical agent to prevent influenza A₂ (Asian).
- ... not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.
- ... unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.
- ... specifically active against all influenza A₂ viruses tested to date.
- ... not indicated for the prevention of influenzal or respiratory illness other than influenza A₂ or for the treatment of established disease.
- ... does not interfere with normal antibody response; acts in concert with pre-existing antibody.

What Symmetrel® means to your patient

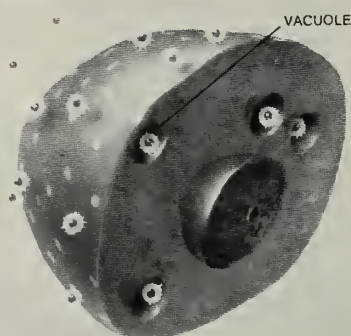
- ... possible immediate influenza A₂ protection when taken following suspected contact.
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- ... a high degree of safety in clinical use.
- ... simple once daily or b.i.d. dosage.

The mode of action of Symmetrel®

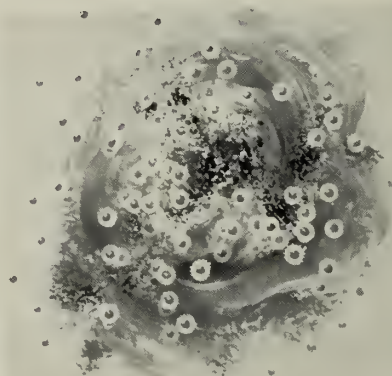
How the influenza virus invades and destroys the untreated cell



1 Viruses outside the cell attach themselves to specific cell receptor areas

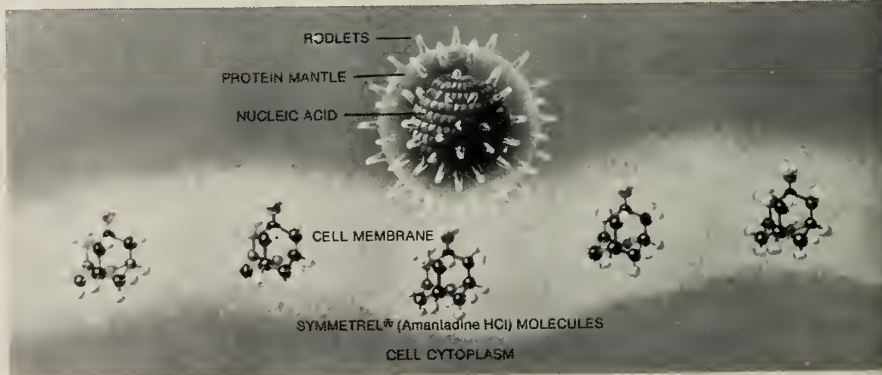
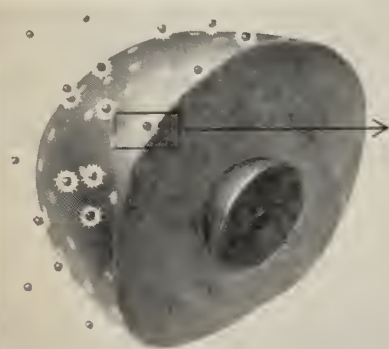


2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

How Symmetrel® (Amantadine HCl) prevents virus invasion¹



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1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).

Safety of Symmetrel® Confirmed. When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Prescribing Information

Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A₂ in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A₂. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

Contraindications: Not indicated for the prevention of influenzal or respiratory illness other than influenza A₂ or for the treatment of established disease.

Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

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Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- Ulcerative colitis
- Acute infections
- Irritable bowel
- Regional enteritis
- Drug therapy
- Food Poisoning
- Functional hypermotility
- Malabsorption syndrome
- Ileostomy
- Gastroenteritis and colitis

Dosage: For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg. 	½ tsp. 3 times daily
6-12 months	4 mg. 	½ tsp. 4 times daily
1-2 years	5 mg. 	½ tsp. 5 times daily
2-5 years	6 mg. 	1 tsp. 3 times daily
5-8 years	8 mg. 	1 tsp. 4 times daily
8-12 years	10 mg. 	1 tsp. 5 times daily

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

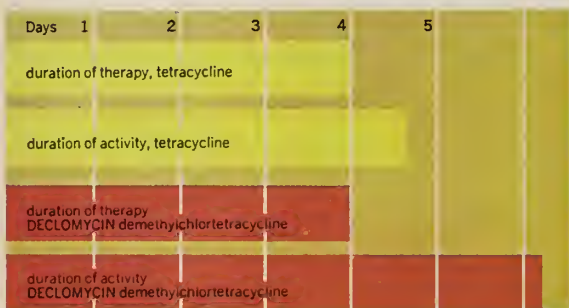
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OR
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Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.



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Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncrotic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneuratics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies. **Side Effects:** Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

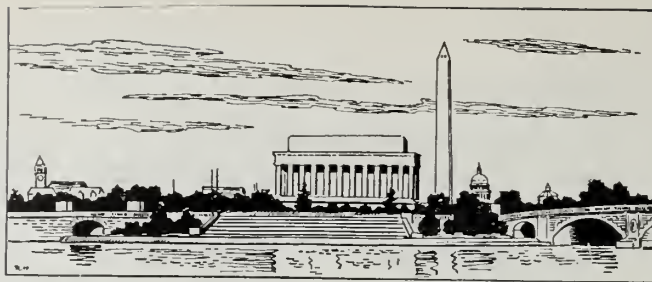
Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncrotic reactions: maculopopular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), onaphyloxia, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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EDITORIALS

The Physician as a "Legitimizing"

INVARIABLY there is a lag between the advance of medical knowledge on the one hand and its dissemination and utilization on the other. This lag may be extended considerably when the practical application of this knowledge is contingent on changes in habit patterns that have developed as part of sophisticated living in an affluent society. Such is the problem in our current efforts toward prevention of coronary heart disease.

The Framingham and other epidemiologic studies have indicted smoking, overeating, and insufficient exercise in the pathogenesis of coronary heart disease along with predisposing diseases such as hypertension, diabetes and hypothyroidism.

While these reports have received considerable attention in the lay press as well as in professional publications there has been little spontaneous improvement in living habits. Too few people reading of the ill effects of cigarette smoking have given up the habit, and the warning on the side panel of each pack of cigarettes has resulted in less reading rather than less smoking. Programs to promote physical fitness have not had striking results. Very few adults get enough exercise unless it is an occupational requirement.

Diseases of the heart and blood vessels accounted for almost a million deaths in this country in 1965—more than those from all other causes combined. Over half of these were attributed to coronary heart disease. The management of patients with heart attacks has improved considerably over the years but this has been largely through control of complications. There has been little advance in prevention.

It has been estimated that there are about 3.25 million of us with coronary heart disease at this time, and data on prevalence in relation to age

show a rather precipitous rise from a fraction of 1 per cent at age 30 for both sexes to about 5 per cent in women and 10 per cent in men at age 60. Available data suggest that this rise can be attenuated if the "risk factors" can be controlled. Actually the risk factor data did not come as a real surprise to the medical profession, and the epidemiologic studies largely confirmed what most physicians either already knew or surmised. In effect, when the physician advises the patient with the myocardial infarction he usually discusses these same risk factors in an effort to prevent further heart damage. He tells him to watch his weight and he may prescribe a low cholesterol diet. He outlines a therapeutic regimen to control his hypertension or his diabetes and, more often these days, he prescribes regular and graded exercise. The risk factor data have served to quantitate and legitimize these management concepts by providing scientifically valid supportive data.

It has proven to be one thing to advise the "coronary" patient and quite another to achieve comparable acceptance by the "coronary-prone" individual when he is asymptomatic and enjoying himself. Even though reinforced by such scientific data, the physician has found it difficult to convince such persons that they must change their habits, particularly since such changes demand self-discipline and self-denial.

The picture is not all black, however; there are a few dim lights that offer hope for the future.

Periodic examinations and the concept of health maintenance have been accepted increasingly by our culture and, fortunately, those who consult their physicians for such purposes are no longer viewed as hypochondriacs. The spread of this worthwhile practice has facilitated early detection and control of many chronic illnesses,

including those predisposing to occlusive vascular disease. There is really no excuse for not detecting and controlling diabetes and hypertension in the vast majority of our population these days, and there is every reason to believe that if this objective could be accomplished there would be a real reduction in coronary deaths.

Periodic examinations also offer an opportunity for discussion of diet as well as drinking and smoking habits and exercise patterns. In promoting good health habits in these areas the physician may reinforce what the patient has already read, or perhaps his advice unheeded at the time may be recalled with a positive effect at a later date by an article in the newspaper or by a radio or television program.

The value of exercise has not only been demonstrated in prevention of coronary heart disease but there are recent reports that demonstrate its therapeutic efficacy in patients with established coronary insufficiency. There are beginnings of community efforts in this area. In Eugene, Oregon, a physician and a university track coach joined forces in a "jogging" program. Jogging, described as something between a walk and a run, was carried out by 265 white-collar workers 3 times a week over a 3-month period with considerable benefit, including weight loss and lowering of blood pressure in those with abnormal baseline readings, and with complete safety. The results of the North American Aviation program on the effects of exercise on patients with angina are most impressive and include before and after coronary angiography that cannot be refuted.

In such programs of prevention the physician is cast in a new role. In even the recent past, preventive medicine practiced by the physician has been limited almost entirely to immunization against infectious diseases. Except for those who pioneered in this field it has not been necessary for the physician to set an example by being immunized first. While at times questions may be asked, i.e., experience with improperly attenuated polio virus vaccine, the public does not ask whether or not the physician has taken the vaccine. His patients more or less assume he has since he is recommending it for them. Nonetheless the physician remains a "legitim�er" for any such program, and knowledge that physicians have not taken the vaccine would unquestionably defeat any community immunization effort.

Cannot this same philosophy be carried over into these new prevention programs? Certainly the otherwise healthy obese patient must question dietary advice given by an equally obese doctor.

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It must be difficult for the patient who smokes a pack of cigarettes a day to give credence to advice given by a doctor who smokes 2 packs a day. While selling these programs to patients without physician conformity may not be quite the same as the baldheaded man selling a guaranteed hair restorer, the point is similar. The physician may justify "do as I say not as I do" advice to patients with disease but he cannot do so with those in whom he is justifiably trying to prevent disease.

And the situation between the physician and his individual patients may well be extended to the relationship between the medical profession and the general public. It seems logical to assume that the more the medical profession conforms to the principles and practices of prevention in control of risk factors in coronary heart disease, the more response they can expect from the community.

Just as the Framingham study served to legitimize the role of "risk factors" in coronary heart disease, so the appropriate prevention practices by the medical profession can legitimize the control efforts. They most certainly seem worthy of trial.

Physicians should not smoke cigarettes or, if this is not readily achieved, they certainly should abstain from smoking in the presence of patients or publicly in medical care facilities.

Every overweight physician should make a concerted effort to "trim down." Exercise potentiates dietary restrictions for maximum benefit and the physician should make every effort to develop his own exercise program geared to his own needs and limitations. And finally, all physicians should have periodic medical examinations and make every effort to practice what they preach—early detection and control of disease.

As a "legitim�er" for programs to prevent coronary heart disease, the physician may find the one he helps the most is himself.

JACK KLEH, M.D.

President, Washington Heart Association



Photo professionally posed

Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin — **PEN • VEE® K** (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

Indications: Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

Precautions: Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; anti-

histamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat β -hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

Composition: Tablets—125 mg. (200,000 units) and 250 mg., (400,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

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(potassium phenoxymethyl penicillin) 

The Implications of Recent Federal Health Legislation on the Future of Pediatrics and General Practice*

THE RECENT AVALANCHE of health programs† gives us cause for concern and provides us with the intriguing challenge of how to supply the manpower needed to come even close to providing these services and to assure their proper administration. Pediatrics, as we have known it, must change, and it is interesting to speculate on what adjustments must be made and what it will look like 10 years from now.

Even without the impact of this legislation, losses of pediatric practitioners to other specialties, to industry and Government, and to expanding academic staffs have left great gaps among those who "mind the children." Recently I listed some 18 pediatricians in the Washington area who have left pediatric practice in the past few years. In Maryland last year, for every new pediatrician who entered practice 3 left for some other kind of work.

It has been determined that only 20 per cent of the children are currently cared for by pediatricians, an increase of only 4 to 5 per cent since the American Academy of Pediatrics Survey in 1949. From a published report of William Stewart¹ in February 1963, and again presented by him at the Atlanta Institute on Pediatric Training, conducted last February by the American Board of Pediatrics, the ratio of pediatricians to child population is a losing game. He has indicated that while the ratio of pediatricians rose from 7.3 per 100,000 in 1940 to 16.3 by 1961, the ratio of general practitioners to the population under 15 years of age fell from 345 in 1940 to 135 per

100,000 in 1961. "When pediatricians are combined with general practitioners, the ratio fell from 352 in 1940 to 151 in 1961." This same loss ratio continues into 1966.

While the present rate of production of pediatricians will probably match the expected rate of increase in child population, present demands of society for child care by pediatricians plus the defections in candidates for general practice plus the demands caused by the new legislation, both as to care and administration, create a tremendous challenge to directors of pediatric training programs. If 9,000 new doctors are graduated from our medical schools today, a total of 135,000 doctors of medicine during the next 14 years can be expected. The present rate of production of pediatricians is under 1,000 a year. If pediatricians are to care for all the children (not just 20 per cent) in 1980, then to care for the expected 76 million children at that time we shall need 115,000 pediatricians, an increase of 100,000. In other words, all medical graduates for the next 10 years would have to become pediatricians in order to meet this goal.

Apparently we must learn instead to develop a better interdisciplinary approach. This will mean a closer relationship with all of the allied professional groups concerned with child health, assisting in better training programs for doctor assistants, and learning to utilize more effectively the services of public health nurses and social and behavioral scientists. This capacity to learn to work with and to direct other dispensers of child health services was stressed in a recent recommendation by the American Board of Pediatrics to those charged with directing pediatric training programs.

Along with a better utilization of the pediatrician's valuable time, communication and liaison must be established with numerous school and family health services in the community. This probably will be done at both a private and a public assistance level. There appears to be no good reason why a group of private physicians could not utilize efficiently the services of a social worker, psychologist, and an educational consultant in their practice. Certainly the expansion of community health programs will see a tremendous increase in the size and complexity of outpatient departments in at least the teaching hospitals. While the pattern of pediatrics will

* Part of a presentation made before the Philadelphia Pediatric Society in Philadelphia, Pa., October 12, 1966.

† Major national health legislation passed by the 89th Congress: (first session) Medicare; Medicaid; regional programs to plan for research training and patient care in heart disease, cancer and stroke; Federal aid to medical schools, and comprehensive health planning; (second session) Allied Health Professions Act; Health Planning and Public Health Services Act; Water Pollution Amendment to the Federal Water Pollution Control Act; Narcotics Addiction Rehabilitation Act; Military Medical Benefits Act; Group Practice Facilities Act; Traffic Safety Act; Auto Safety Act; Child Protection Act; Animal Sale and Transportation Act; Veterans Administration Hospital Medical Education Act; Veterinary Medical Education Act; Fair Labor Standards Act.—New York Times, November 20, 1966.

¹ STEWART, W. H., AND PENNELL, M. Y.: Pediatric manpower in the United States and its implications. Pediatrics, 1963, 31, 311.

vary with geographic location, a great demand for qualified physicians to direct these community programs and expanded outpatient departments is to be expected.

In some areas there has been a tendency to bar the primary or family physician from hospital contacts and the opportunity to continue his education in a teaching environment. I believe in the future there will be many more opportunities for the family physician to participate in teaching programs and to provide service on a salaried basis in hospital-based health care stations either on a full-time or a part-time arrangement. In fact, the AMA, at its 1966 Clinical Session, took a strong stand on hospital privileges by adopting the following resolution: "That in the public and professional interest the House of Delegates of the American Medical Association reaffirm its support of the principle that every ethical licensed physician who needs and desires them should have staff privileges, commensurate with his training and skill, in at least 1 accredited hospital."

It is probably not possible to speculate with any great accuracy the full impact of such extensive and expensive legislation on the future of our professional lives. Our 3-fold aim, to accept the responsibilities of leadership in providing the much needed coordination of these programs as they affect child-rearing practices, to establish better communications with the other professions that have a large stake in this field, and to exert a maximum effort to bring better health to more of our Nation's children, is consistent with the highest ideals of pediatrics.

F. G. B.

"Yanqui, Come Back!"

The Story of Hope in Peru

OUR OWN BILL WALSH is the author of this, his second book on the story of the ship with a medical training mission—S.S. HOPE. "Yanqui, Come Back!" (New York: Dutton, \$4.95) is a sequel to "A Ship Called HOPE," Dr. Walsh's first account of an earlier mission to Indonesia and Vietnam, and it is equally fascinating.

A mind's picture, as many people likely have, of the arrival of HOPE joyfully acknowledged by the host country (this time, Peru) and members of the team feted "in song and dance" at the close of each day vanishes after reading a few chapters. Hard as it is to believe, gratitude for acts of mercy

was earned wearily and patiently. On this mission the crew of the ship faced a shipping strike before they even set sail, and upon arrival at Salaverry, the port of call near Trujillo, apathy, Communism, taboos, professional jealousy and pride, as well as unsanitary living conditions and primitive medical facilities. These were only some of the barriers, however, that Dr. Walsh and his team of doctors and nurses had to overcome in trying to bring medical care to the people of the *barriadas*, "the ring of slum communities surrounding Trujillo," and, even more important, medical training to Peruvian physicians, nurses and technicians. In like proportion, however, the rewards finally achieved were great and, to each participant, deeply satisfying. The title of the book, well earned, attests to the success of the mission.

I commend to our readers both books, "A Ship Called HOPE" and the newer, "Yanqui, Come Back!" To young men and women, especially, they should be inspiring. They reveal what one person with vision, determination, and a goal can do. It is fitting that the descendants of those who came to the shores of this country centuries ago to seek a better life should now build bridges in reverse and, with compassion, carry back to less fortunate countries some of the skills and techniques they have learned. Dr. Walsh, one of our own members, is doing just that.

A. L. E.

Patients Needed for Clinical Center Studies of Anemia

THE COÖPERATION OF PHYSICIANS is requested in the referral of patients for studies of sideroachrestic anemia and anemia due to chronic lead poisoning being conducted by the Metabolism Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Md.

Two categories of patients are needed:

1. Patients with either hereditary or acquired sideroachrestic anemia (primary refractory anemia) for iron turnover studies and, in the acquired cases, for therapeutic trials.

2. Patients with anemia due to chronic lead poisoning for iron turnover studies and chelation therapy.

Of particular interest are adolescents and adults who are ambulatory. Suitable patients will be admitted to the Clinical Center for a minimum of 4 weeks.

Physicians interested in having their patients considered for admission to these studies may write or telephone Dr. Paul D. Berk, Clinical

Center, Room 4-N-117, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 65955.

Report of Delegates to the AMA Clinical Session

Las Vegas, Nevada, November 27-30, 1966

AT THIS MEETING much material was presented bearing on the changing patterns of medical education and medical practice. Your senior delegate, Dr. Holden, served well and faithfully on a reference committee of the House of Delegates.

1. The House of Delegates left to the local Medical Societies the right to define the terms of "usual, customary and reasonable" as related to physicians' charges while still offering advice to those Societies requesting it.

2. A report of the Judicial Council which discusses the relationship of physicians to lay-operated laboratories was adopted. It brands as unethical and deceptive any physician who lends his name to the operation of such a laboratory when he does, in fact, not control it. This report also states that in using any laboratory the paramount consideration must be the quality of service rendered and not the cost factor. The responsibility for the choice of a laboratory rests with the physician.

3. Report R of the Board of Trustees and the combined report from the Councils on Medical Service and Medical Education dealt with the handling of monies within a hospital staff fund as well as the way such funds should be utilized in compensating house officers. These reports state there must be local determination within the framework of the AMA policies and local laws.

4. A 49-page report of the Ad Hoc Committee on Education for Family Practice was adopted and sent to the Council on Medical Education for implementation.

5. The report of the Citizens Commission on Graduate Medical Education (the Millis Report) was received and action deferred until June 1967. This is an important matter and requires the careful study of all physicians.

6. The House of Delegates accepted the advice of the Board of Trustees that the AMA no longer pay the cost of the TWX system, but left it to the local Societies to pay if they desired such service.

7. The resolution introduced by this Society asking for removal of the charge for postgraduate programs was postponed indefinitely.

8. Numerous other actions were taken dealing with desired changes in governmental programs including Title XIX, more help for unmarried mothers, and the desire for immunity of utilization committees from litigation.

We recommend that:

1. Item 1 be defined as soon as possible.

2. Item 3 be referred to the Committee on Liaison with Hospitals and Medical Schools for study and advice.

3. Items 4 and 5 be referred to the Committee on Postgraduate Education.

4. The question of immunity for utilization committees be referred to the Committee on Hospital Utilization.

5. That the use of the TWX System (item 6) be discontinued by this Society as not being worthwhile due to cost and limited usage.

RAYMOND T. HOLDEN, M.D., *Delegate*

C. WILLARD CAMALIER, JR., M.D., *Delegate*



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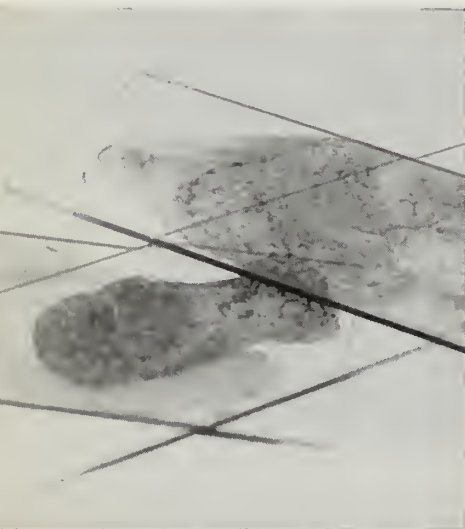
2. nonpregnant women with a history of recent or recurrent monilial vaginitis



3. elderly or debilitated patients



4. patients with a past history of moniliasis



5. patients on long-term tetracycline or corticosteroid therapy



BRISTOL THERAPEUTIC SUMMARY: For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). **Precautions:** Bacterial superinfection may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule *q.i.d.* Continue therapy for 10 days in beta-hemolytic streptococcal infections. Administer one hour before or 2 hours after meals. **Supply:** Capsules, bottles of 16. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin.

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Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride 250 mg. and nystatin 250,000 units.

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Health Dept. Notes

Chest X-rays for School Employees

THE D. C. DEPARTMENT of Public Health, in coöperation with the D. C. Board of Education, is providing an opportunity for all public school employees to take part in a chest X-ray program. More than 9,000 administrators, teachers, and other employees are expected to be X-rayed from January 4 through May 12, 1967. The Office of Education of the Archdiocesan Schools also has been invited to participate in this program. School personnel will be encouraged to visit their family physician for an X-ray and medical evaluation.

Tuberculosis is a significant public health problem in the District, and the D. C. Department of Public Health welcomes the opportunity to work with local physicians in providing chest X-rays and follow-up service.

Our campaign against tuberculosis is divided into 3 equally important phases.

The first phase consists of the identification of people with tuberculosis and other chest diseases. Through our educational program we are providing information about tuberculosis control to teachers and others, discussing the need for chest X-rays and helping people overcome misconceptions about tuberculosis and X-rays. Teachers are encouraged to provide this information to school children.

The second phase involves epidemiological investigation and treatment. Our staff call on close associates of the tuberculosis patient. These may include members of the family, co-workers, friends, teachers, and pupils in the class. Starting with the first diagnosed case we often find tuberculosis scattered throughout the community. It is not unusual to find 4 or 5 persons with previously undiagnosed tuberculosis, and sometimes it may be as high as 20. The Health Department provides inpatient care at Glenn Dale Hospital; staff at our tuberculosis clinics treat individual outpatients.

The third phase includes prevention of tuberculosis.

Under a ruling of the Board of Education, employees who have had a chest X-ray since July 1, 1966, may be excused from the current program upon presentation of evidence of such X-ray to their principal or appropriate school official. All other employees, including itinerant teachers, are required to be X-rayed by the May

12, 1967 deadline. Although an X-ray is required once every 3 years, annual X-rays are encouraged.

Under the current procedure, principals and officers in charge of administrative units will receive a sufficient quantity of material from the D. C. Department of Public Health so that each employee in the building or unit for which they are responsible will be given the necessary forms and instructions.

The materials will include:

A Form PH-79a-22 for each employee to be used for reporting. If the employee is X-rayed by a private physician or at a military clinic or hospital, the doctor should complete the form and sign on the bottom line. The physician's address should be included. These forms (white, yellow and pink copy) are sent by the physician to the Coördinator, School Health Program, 601 Indiana Avenue, N.W., Washington, D. C. 20001. The orange copy of this form will be returned to the employee immediately upon completion of the X-ray, regardless of where it is taken. The school employee forwards the orange copy to the school principal as proof that an X-ray has been taken.

A Form PH-93-22 is to be left at the clinic where the employee is X-rayed for the purpose of mailing the X-ray report to the employee. Private physicians may make their own arrangements with patients to report X-ray results.

Employees are requested to fill in the name, address, telephone number, sex, and birth date on Form PH-79a-22 prior to reporting for the X-ray. The date is to be filled in at the time of the X-ray.

A 70 mm. X-ray may be used in this program. However, a 14 x 17 X-ray is desirable for any persons with a previous history of tuberculosis.

The Health Department's Epidemiological Services Section will complete follow-up on suspicious findings within 60 days and send this information to the Tuberculosis Control Officer.

Individuals with other suspicious chest abnormalities will be contacted for additional screening tests and diagnosis.

The Health Department's Health Education and Information Division, in coöperation with the D. C. Tuberculosis Association, conducts the education and information phases of this program. The Biostatistics Section will make an evaluation of the program and issue a final report for use in the follow-up phase of the program.

The D. C. Department of Public Health X-ray facilities will be utilized in this program. They are located at the Northwest Central Clinic, 13th and Upshur Streets, N.W., and are open from 8:15

FIRST-PRIZE WINNER IN SCIENTIFIC EXHIBIT AT SMA MEETING

Dr. Roland B. Scott (right), head of pediatrics at Howard University College of Medicine, accepts from Mr. Robert F. Butts, Executive Director of the Southern Medical Association, the first-prize award in the Scientific Exhibit during the meeting of the Association in Washington, November 14-17, 1966. Dr. Scott shared the award for excellence of the exhibit on Pediatric Dermatology with his colleagues, Drs. Teoman Saracli, Robert L. Baird, Thomas E. Reichelderfer, Angella Ferguson, and John A. Kenney, Jr., all of the Howard University College of Medicine, Freedmen's Hospital, and the D. C. General Hospital.



a.m. to 4 p.m., Tuesdays, Wednesdays and Thursdays, and from 5 p.m. to 7 p.m. on Wednesdays. The X-ray facilities at the Southwest Health Center, located at Delaware Avenue and Eye Street, S.W., are open on weekdays, except Wednesday, from 8:15 to 10 a.m. X-rays are also available at the Health Department's Mobile Chest X-ray Unit. The local newspapers publish the locations of the Unit. Additional questions about the Unit may be directed to the Department's Health Information and Referral Center; the telephone number is 629-3776.

The Health Department is eager to work closely with local physicians to reduce the tuberculosis morbidity and mortality rates in the District of Columbia.

MURRAY GRANT, M.D., D.P.H.
D. C. Director of Public Health

regulations, and the advent of Title XIX after January 1, 1967, make it mandatory for every physician to be aware of regulations and requirements imposed by these programs. We at Wyeth recognize that much of the dissemination of these new guidelines for medical practice is accomplished through the state medical journal. Besides being an effective medium for communicating to physicians, it is also well known that the state medical journal plays a vital role in post-graduate medical education of the practicing physician.

Recognizing these 2 vital functions of the state medical journal, we at Wyeth for the first time have planned, on a trial basis, to utilize these journals in our promotional efforts. Because both the aspect of medical communications and continuing medical education are so important we feel that anything we can do to support your state medical journal will in essence be of service to the practicing physician in your state. We are pleased that we will be a regular advertiser in your publication during 1967 and hope that your Society and the physician-members as well as Wyeth can benefit from this project.

* * * * *

By participating in advertising support of your official state journal, we at Wyeth hope that we can contribute to both the educational and communication needs of the practicing physician in your state.

ROBERT S. WARNER, M.D.
*Director of Professional Marketing
Services, Wyeth Laboratories,
Philadelphia*

Letters to the Editor

Advertising in State Medical Journals

The recent and forthcoming legislative changes have had a profound influence on the practice of medicine and have necessitated closer communications among physicians on a local level. Medicare, with its attendant

Mandatory Reporting of Physical Abuse of Children in the District of Columbia: Community Procedures and New Legislation*

LARRY B. SILVER, M.D.†, WILLIAM BARTON, M.D.‡, AND CHRISTINA C. DUBLIN, B.S.§

LEGISLATION ON MANDATORY REPORTING of physical abuse of children passed by the 89th Congress is of special interest to all physicians practicing in the District of Columbia. A new law requires any physician to report to the police a case of injury or physical harm due to neglect of a child 18 years of age or younger if the physician believes that the injury or harm was the result of abuse by a parent, caretaker or other adult.

In December 1964, prior to the enactment of this law, an interagency procedural agreement for the handling of such cases was established under the auspices of the Department of Public Welfare of the District of Columbia. This agreement encouraged reporting and established a procedure for the reporting of all suspected cases of mistreatment or abuse of children.

All local hospitals and other agencies dealing with children have participated in this voluntary coöperative plan. These procedures and the details of the legislation will be described in this paper for the information of physicians affected by the new law.

History

The attention of the medical profession was drawn to present-day manifestations of the problem of child abuse in 1961 when the American Academy of Pediatrics presented a symposium on "The Battered Child" at its annual meeting.¹ Here the findings of concerned medical specialists brought into sharp focus the increasing professional recognition of this problem. In 1962 Kempe et al² presented evidence on the prevalence of the "battered child syndrome" based on data from a Nation-wide survey in an effort to impress

physicians with the professional and management responsibility for consideration of such cases. Since that time numerous articles have been published about the incidence, clinical manifestations, social and psychologic characteristics of the battered child and the battering parent.³

In 1962 the Children's Division of the American Humane Society initiated a study of the child-abuse problem in America.⁴ Based on the findings of this study an advisory committee to the Children's Division endorsed mandatory reporting of suspected inflicted injuries on children.⁵ The Department of Health, Education, and Welfare, through its Children's Bureau, has also been active in studying child-abuse problems. In 1963 the Children's Bureau proposed model legislation for reporting of the physically abused child.⁶ Since 1963 49 states, the Virgin Islands, and the District of Columbia have passed statutes on child abuse, with legislation pending in Hawaii and Puerto Rico. Each of these statutes is based, in large part, on the model law.

The Mandatory Reporting Law

Legislation to provide for the mandatory reporting by physicians and institutions in the District of Columbia of certain physical abuse of children was introduced in the House of Representatives by Congressman Multer and was introduced in the United States Senate by Senator Bible. Final passage of the legislation occurred in October 1966 during the second session of the 89th Congress.^{7, 8, 9}

The District of Columbia Medical Society studied the bills, recommended certain changes, and strongly supported the bills as a necessary step in attacking further the problem of child abuse.

The Mandatory Reporting Law has 6 sections. The key issues of each section are as follows:

Section 1: The purpose of the legislation is to provide for the protection of children who have had physical injury inflicted upon them or who have suffered physical harm because of neglect. Physicians who become aware of such cases

* From Child Abuse Research Study, Department of Psychiatry, Children's Hospital of the District of Columbia (supported in part by the Philip M. Stern Family Fund).

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‡ Staff Psychiatrist and Consultant to the Department of Adolescent Medicine, Children's Hospital.

§ Research Associate, Department of Psychiatry, Children's Hospital.

should report them to the Metropolitan Police Department of the District of Columbia.

Section 2: Any physician in the District of Columbia, including persons licensed under the Healing Arts Practice Act, District of Columbia 1929 having reasonable cause to believe that a child under the age of 18 brought to him or coming before him for examination, care, or treatment has in his opinion had serious physical injury or injuries inflicted upon him other than by accidental means, or has suffered serious physical harm due to neglect shall report or cause reports to be made in accordance with this legislation. When a physician in the performance of service as a member of the staff of a hospital or similar institution attends a child he shall notify the person in charge of the hospital or institution or his designated agent who shall report or cause reports to be made in accordance with this legislation.

Section 3: An oral report shall be made immediately by telephone or otherwise and followed as soon thereafter as practicable by a report in writing to the Metropolitan Police Department of the District of Columbia. Such reports shall contain the names and addresses of the child and his parents or other persons responsible for his care if known, the child's age, nature and extent of the child's injuries (including any evidence of previous injuries), and furnish any other information which the physician or other person required to make the report believes might be helpful in establishing the cause of the injuries and the identity of the perpetrator.

Section 4: Any person, hospital, or institution participating in good faith in making a report pursuant to this legislation shall have immunity from liability, civil or criminal, that might be incurred or imposed. Any such participant shall have the same immunity with respect to participation in judicial proceedings.

Section 5: Neither the physician-patient privilege nor the husband-wife privilege shall be a ground for excluding evidence in any proceeding in the Juvenile Court of the District of Columbia, provided that the Juvenile Court determines such privilege should be waived in the interest of public justice.

Section 6: No child shall be considered neglected who in good faith is under treatment solely by spiritual means through prayer in accordance with the tenets and practices of a recognized church or religious denomination by a duly accredited practitioner.

Community Procedures

This community procedural agreement has been in effect in the District of Columbia since December 1964. This was necessitated by the complexities of handling the large numbers of cases of child abuse coming to the attention of local hospitals and educational and social welfare agencies. Representatives from the Woman's Bureau, Corporation Counsel, Department of Public Health, Juvenile Court, United States Attorney's Office, and Department of Public Welfare have coöperated in this procedure for handling cases of battered or mistreated children. This interagency agreement details the duties and responsibilities of each agency involved as follows:

1. When a District Government official (Public Assistance Case-worker, Child Welfare Division Worker, Department of Public Health Home Physician, Maternal and Child Health Clinic, Department of Public Health Visiting Nurse) learns of a case of child abuse and believes that the immediate removal of the child from the home is vital to his physical well-being, an immediate referral is made to the Woman's Bureau of the Metropolitan Police Department. If, following the investigation of the Woman's Bureau, this agency feels that the child should be removed, it files a complaint with the Director of Social Work of the Juvenile Court. If, following the investigation by the Woman's Bureau, this agency does not feel that the child should be removed, it so informs the referring agency. At this time the referring agency refers the case to the Child Welfare Division of the Department of Public Welfare for possible acceptance for protective services.

2. When a member of the community—neighbor(s), parent, relative(s)—suspects the physical abuse or the gross neglect of a child and reports such to the Woman's Bureau, this agency initiates an investigation. Based on this investigation the Woman's Bureau may file a complaint with the Juvenile Court or refer the case to the Child Welfare Division as described above. If the case is referred to the Child Welfare Division, its Protective Services Section begins to work with the child and his family. If at a later time the Child Welfare Division believes that the child should be removed from the home, it refers the case back to the Woman's Bureau and simultaneously files a petition with the Director of Social Work of the Juvenile Court.

3. If the Child Welfare Division, Public Assistance Division, Department of Public Health, or any other agency of the District Government

receives a complaint from the community alleging the physical abuse, severe mistreatment, or gross neglect of a child, the case is to be referred to the Woman's Bureau. The Woman's Bureau then may proceed as described above.

4. When a child is brought to a hospital within the District of Columbia and the medical findings or history suggest a case of physical abuse, the case is to be referred to the Woman's Bureau by the designated authority (i.e., administrator, medical social service department, or other agency within the hospital).

5. If a child who has been physically abused, severely mistreated, or grossly neglected is removed from the home by the Woman's Bureau and is in need of medical care, he is to be taken by the Woman's Bureau to D.C. General Hospital for admission. If admission is not required, the child is taken to Junior Village unless other suitable placement for his temporary care is available.

6. If a criminal proceeding is indicated against the abusing parent or other individual, the Woman's Bureau institutes the complaint with the cooperation of the U. S. Attorney's Office.

Since the establishment of this Procedural Agreement the concerned District agencies have been meeting regularly to review the procedures and to minimize interagency difficulties.

Comment

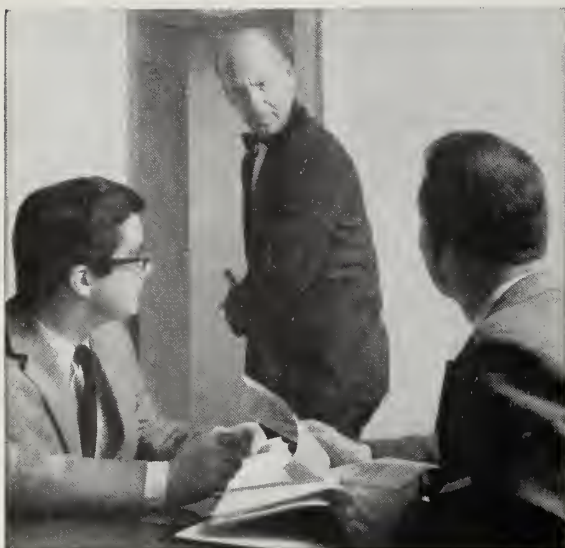
Despite a preponderance of support for this legislation many members of the medical, legal, and social-work professions have been concerned with the effectiveness of the proposed model child-abuse law of the Children's Bureau and the actual laws as they exist on the statutes of the majority of the states and the District of Columbia. Reinhart and Elmer¹⁰ thought that the law's concentration on the 1 child seen by the doctor failed to mention possible dangers to other children in the household. In addition, they expressed concern that the law might increase the hazards for the injured child and that the publicity accorded a mandatory reporting law could result in fewer injured children being brought to the doctor. Finally, they questioned the soundness of the suggested language of the law which appeared to recommend the police as the appropriate agency to receive reports of alleged child abuse.

The General Counsel of the American Medical Association expressed concern over the new legislation being enacted around the country.¹¹ The major concerns noted were that (1) compelling the physician alone to report singles him out un-

wisely or causes the parent or guardian, for his own protection, to put off seeking medical care, (2) legislation therefore should confer immunity from litigation and damage not only on physicians but also on lawyers, nurses, social workers, and others who seek to protect abused children, and (3) mandatory reporting in and of itself will not eradicate undesirable social conduct.

Paulsen et al¹² reviewed the legislative history of the child-abuse reporting laws and expressed concern about the future: "Many supporters of child-abuse reporting legislation viewed enactment as a means to strengthen the network of child-protective services. The services are needed but are by no means universally available. Existing statutes will require additional appropriations for expanding child-protective services . . . (for) as child-abuse reporting legislation . . . (becomes) effective, it will add to the existing overburdened case load of the agencies." Paulsen,¹³ in a study of the legal protections against child abuse, again expressed concern with the reporting laws: "Reporting is, of course, not enough. After a report is made something has to happen. A multidisciplinary network of protection needs to be developed in each community to implement the good intentions of the law The legislatures which require reporting but do not provide the means for further protective action delude themselves and neglect children."

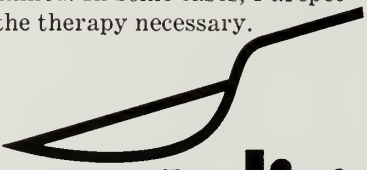
The Child-Abuse Research Group of Children's Hospital surveyed the physicians in the Greater Metropolitan Washington D.C. area in the spring of 1966.¹⁴ They found that 1 of every 4 physicians stated that he would not report a case of suspected child abuse even given legal protection. The major concern seemed to be that the evidence would not stand up in a court proceeding. In addition, the physicians were concerned about time lost in legal proceedings and about the implications of their report to the family and to their practice. The group concludes: "Methods of communication from medical professional organizations and from Government and community agencies have not been completely effective in familiarizing the physicians with the battered-child syndrome or with the community procedures to be used. The Child-Abuse Law will not be enough until these lines of communication are improved. There are several areas of resistance which inhibit some physicians from reporting suspected cases of child abuse. A need exists to further educate physicians, to clarify many basic terms and concepts, and to define the responsibility and limitations of the



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individuals and agencies involved in cases of child abuse. As the physician learns more about the scope of the child-abuse problem and about the community facilities available to him he will be more able to overcome some of his concerns and to work as a team member within his community."

With the enactment of a statute which recognizes child abuse as a reportable public health concern the medical profession must now take its rightful position in the forefront of the community attack on this distressing problem. The legislation itself offers no solution to the social problems which lie behind this phenomenon, but it underscores the importance of the role of the physician in the physical protection of children.

Thus, new legislation requires physicians in the District of Columbia to report suspected cases of child abuse. Physicians should report such suspected cases to the Woman's Bureau of the District of Columbia Metropolitan Police Department, which in turn will initiate appropriate action on the part of community agencies involved in the problems of child protection.

References

1. BAIN, K.: *Pediatrics*, 1963, 31, 895.
2. KEMPE, C. H., AND OTHERS: *J.A.M.A.*, 1962, 181, 17.
3. Clearinghouse for Research in Child Life, Children's Bureau, Department of Health, Education, and Welfare: *Bibliography on the Battered Child*. Washington, D. C.: Government Printing Office, January 1966.
4. DeFRANCIS, V.: *Child Abuse—Preview of a Nationwide Survey*. Denver, Colo.: Children's Division, American Humane Association, 1963.
5. *Guidelines for Legislation to Protect the Battered Child*. *Ibid.*, 1963.
6. Children's Bureau, Department of Health, Education, and Welfare: *The Abused Child—Principles and Suggested Language for Legislation on Reporting of the Physically Abused Child*. Washington, D. C.: Government Printing Office, 1963.
7. House of Representatives, 89th Congress of the United States: *Act H.R. 10304: To provide for the mandatory reporting by physicians and institutions in the District of Columbia of certain physical abuse of children*. Washington, D. C.: Government Printing Office, 1966.
8. Senate, 89th Congress of the United States: *Bill S. 1318: To provide for the mandatory reporting by physicians and institutions in the District of Columbia of certain physical abuse of children*. Washington, D. C.: Government Printing Office, 1966.
9. Public Law 89-775, 89th Congress, H.R. 10304. Washington, D. C.: Government Printing Office, November 6, 1966.
10. REINHART, J. B., AND ELMER, E.: *J.A.M.A.*, 1964, 188, 358.

(Continued on page 146)

Project HOPE—A Progress Report

THE S.S. HOPE returned home, November 30, concluding her fifth medical teaching-treatment mission. For the past year the famed white hospital ship had been stationed in Nicaragua where volunteer doctors, nurses and technologists worked with their Nicaraguan colleagues to help elevate the country's health standards.

Dr. William B. Walsh, the Washington internist who founded Project HOPE and now serves as its President, received from the people of Nicaragua their country's highest award, the Order of Ruben Dario of the Highest Magnitude. The President of Nicaragua, Dr. Lorenzo Guerrero, personally congratulated the HOPE personnel on their success and extended to them the "warm appreciation and friendship of the Nicaraguan people."

The famed white ship has been in Philadelphia undergoing repair and resupply in preparation for the next mission to Colombia in February. Already, advance medical teams from HOPE are in Colombia, laying the groundwork for 10 months of teaching and training programs. The Project will concentrate largely in the medical schools and hospitals in the port city of Cartagena and in clinics in the surrounding area.

The mission to Nicaragua may well have been HOPE's most successful to date. In the course of the 10-month stay, 1,673 patients were admitted to the hospital ship for treatment and teaching purposes. Outpatient visits to the ship totaled 4,792, and an additional 13,478 visits were recorded in HOPE shore-based clinics. HOPE surgeons and Nicaraguan counterparts performed 1,810 operations, and 158,000 immunizations were administered.

Perhaps the most significant figure is 379, the number of residents, medical students, nurses, technologists and paramedical personnel who received certificates for completion of formal training courses. The primary purpose of HOPE is to share knowledge of modern medical techniques with medical personnel in developing nations.

In Nicaragua, HOPE offered classes and on-the-job training both on the ship, in clinics at Corinto and Leon, in hospitals at Leon and Chinandega, and at the medical school at Leon. Public education, immunization, and milk distribution programs were conducted throughout

the area. During the course of the 10-month cruise, 132 American physicians and dentists volunteered their services for 2-month periods. HOPE's permanent staff for Nicaragua consisted of 105 physicians, dentists, nurses, and technologists.



DR. WILLIAM B. WALSH and Nicaraguan children aboard the S.S. HOPE in Corinto.

In the week before the ship's departure from Nicaragua, thousands of people came to the port of Corinto to make personal farewells to the HOPE doctors and nurses who had become their friends. Receptions in honor of the "Hopies" were held in the Presidential Palace in Managua, as well as in homes, schools, and hospitals. Gifts of food and handicrafts were showered on the volunteers. On the day the ship departed 15,000 Nicaraguans came to the pier to say good-bye.

Founded in 1958, Project HOPE is the principal activity of The People-to-People Health Foundation, Inc., of Washington. Since its maiden voyage in 1960, the S.S. HOPE has been the floating medical center of teaching and treatment missions to Indonesia, South Vietnam, Peru, Ecuador, and Guinea.

As in other countries visited by the ship, HOPE left behind in Nicaragua a medical training unit to continue these educational programs.

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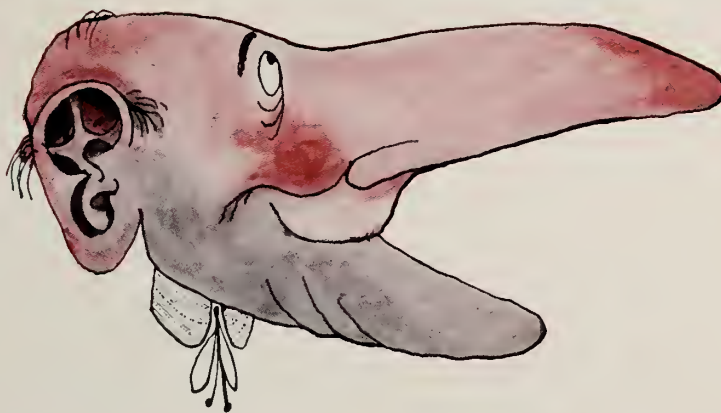
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INDICATION: Nasal congestion. **CONTRAINDICATION:** Do not use in patients sensitive to small doses of sympathomimetic substances. **WARNINGS:** Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. **CAUTION:** Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation.

DOSAGE: **Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. **SUPPLIED:** OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*
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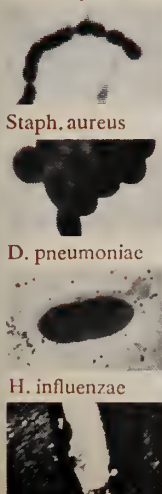
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Although in bacteriologically proven streptococcal infections penicillin remains the drug of choice, Gantanol (sulfamethoxazole) has shown conversion rates comparable to those generally seen with penicillin and apparently superior to those cited in the literature for erythromycin and broad-spectrum antibiotics.^{1,2} Conversion rates have ranged from a high of 96 per cent in 229 patients² to a low of 65 per cent in 105 cases.^{3,4} When Gantanol (sulfamethoxazole) Suspension is used in group A beta-hemolytic streptococcal infections, it is important to continue therapy in the recommended dosage for at least 10 days. In addition, Gantanol (sulfamethoxazole) Suspension has demonstrated antibacterial activity against *D. pneumoniae*, *H. influenzae* and *Staph. aureus*. Thus Gantanol (sulfamethoxazole) Suspension may be considered a practical choice for common bacterial U.R.I., as well as an effective alternative in the penicillin-sensitive patient with proven beta-hemolytic streptococcal infection.

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therapy generally uncomplicated by side effects

Such favorable results as those cited in the literature¹⁻¹² are even more meaningful in view of the fact that only 27 of 1961 patients (1.4%) discontinued therapy because of side effects. Of the total side effects reported in 107 patients (5.5%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.¹⁻¹²

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Dosage: Children—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. Adults—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

How Supplied: Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

References: 1. Braden, B., and Colmore, J. P.: *J. Oklahoma M.A.*, 57:7, 1964. 2. Alban, J.: *Am. J. Dis. Child.*, 109:304, 1965. 3. Reichelderfer, T. E.: *Clin. Med.*, 71:1045, 1964. 4. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med.*, 44:246, 1963. 5. Braden, B.; Colmore, J. P., and Cummings, M. M.: *Antimicrobial Agents Annual*—1960, p. 54. 6. Peters, J. H.: Data adapted from a Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 7. Peters, J. H.: *Antimicrobial Agents and Chemotherapy*—1961, p. 406. 8. Elia, J. C.: *Eye Ear Nose & Throat Month.*, 41:722, 1962. 9. Patton, J. M.: *West. Med.*, 5:46, 1964. 10. Chastain, P. J.: *J. Florida M.A.*, 48:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother.*, 12:450, 1962. 12. Exline, A. L.: *Colorado GP*, 5:(5), 11, 1963.

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*Marks, V., and Dawson, A.:
Brit. M. J. 1:293, 1965.

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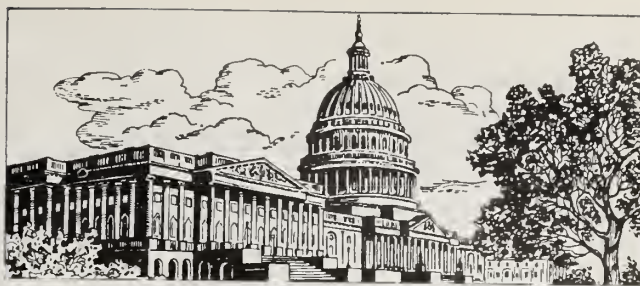
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NEWS & PERSONALS

Summary of Executive Board Actions

Proceedings of November 21, 1966 Meeting

Dinner for the members of the Executive Board was served at 6:30 p.m. in the Exhibit Hall of the Medical Society of the District of Columbia, November 21, 1966. Dr. J. Spencer Dryden, Chairman, presided at the meeting. Present were Drs. C. Willard Camalier, Jr., Robert J. Coffey, Karl C. Corley, Henry D. Ecker, Claudine M. Gay, Raymond T. Holden, Edward W. Nicklas, Lawrence A. Rapee, Paul R. Wilner, and Mr. George W. Cooley, Secretary. The meeting was called to order at 7:00 p.m.

The minutes of the October 24 meeting were approved as mailed.

Committee Meetings: The Secretary reported the following committees had met since the last meeting of the Board:

- | | | |
|----------|----|--|
| October | 24 | Nominating Committee |
| | 24 | Medical Journal Exchange Committee |
| | 25 | Grievance Committee |
| | 25 | Subcommittee on Liaison with the Clergy |
| | 27 | Traffic Committee |
| | 31 | Program Committee, Annual Scientific Assembly |
| | 31 | Finance Committee |
| November | 2 | Fee Review Committee |
| | 7 | Committee on Communicable Diseases |
| | 8 | Committee on Armed Forces and Veterans Affairs |
| | 10 | Liaison Committee with the Bar Association |
| | 14 | Child Welfare Committee |
| | 15 | Grievance Committee |
| | 15 | Committee on Armed Forces and Veterans Affairs |
| | 16 | Board of Credentials |
| | 20 | Annual Business Meeting |
| | 21 | Program Committee, A.S.A. |

Board of Credentials: On recommendation of the Board of Credentials, the following appli-

cants for membership and changes in membership status were approved:

Active Members

Michael Joseph Durr, 5225 Connecticut Avenue, N.W.
 Joanne Winslow Economon, 1712 Eye Street, N.W.
 Arthur B. Farfel, 916 19th Street, N.W.
 Karl Crawford Jonas, 916 19th Street, N.W.
 George Albert Morales, George Washington University Hospital
 Samuel Blanton Rosser, D. C. General Hospital
 James Richard Snyder, 916 19th Street, N.W.
 Charles Otis Titus, Washington Clinic
 C. Eugene Watermann, 2727 Wisconsin Avenue, N.W.
 Wolfgang Oscar Weigert, 5606 Nebraska Avenue, N.W.
 Paul George Yessler, 4501 Connecticut Avenue, N.W.

Reinstatements

Associate: Herbert L. Ley and Paul Richmond

Transfers

Active to Associate: Gerald Schuster
Associate to Active: Neilson Thomas Debevoise
Resident-Intern to Associate: John Edward Kehoe and Oreste Rossi

The following resignations were approved without prejudice:

Active: Ernest Kopstein, J. Lawrence Manuell, and Joseph F. Sadusk, Jr.

The following resignations were approved with prejudice until 1966 dues are paid:

Associate: Josephine G. Kety and Austin B. Rohrbach, Jr.

Annual Business Meeting: Dr. Coffey reported on the actions taken at the meeting held Sunday, November 20.

Finance Committee: Dr. Dryden reported on the Finance Committee's review of the budget for 1967, pointing out that there will be a need for either a dues increase or a special assessment

but that it was felt that one year's experience in the new building was not sufficient to make a decision at this time. The membership will be made aware of the Society's financial status and the reasons for any recommendations concerning either dues increase or a special assessment.

Miscellaneous Business

Dr. Holden reviewed the status of the affiliation with the Royal Society of Medicine and it was voted to agree to formalize this affiliation and notify the members.

Dr. Ecker reported on a meeting with representatives of the Bar Association to determine how best to develop a closer relationship between the two.

A request from the Optometric Society was referred to the Section on Ophthalmology.

At the request of the President-elect the nominees for the Committee on Regional Medical Programs was reviewed and approved and he was authorized by the Board to establish terms of office for this Committee.

The Board reviewed again a report from the Child Welfare Committee in regard to obtaining an outside consultant to make a comprehensive analysis of the District's School Health Program; the Committee was authorized to proceed with its plans to obtain such a consultant and to request funds from the Department of Health, Education, and Welfare to finance the study.

The Board agreed with the recommendations of the Committee on Armed Forces and Veteran Affairs that the new amendments to the Office of Dependents' Medical Care Program be approved under the condition that ODMC agree to revise the old fee schedule.

It was voted to appoint a Liaison Committee with the Woman's Auxiliary and the President-elect was authorized to proceed to do this.

Recommendations from the Committee on Communicable Disease concerning a Measles Vaccination Program were referred back to the Committee for further details.

The suggestion of the President-elect to publish the names of the members of the 1967 committees in the January MEDICAL ANNALS was approved.

Proceedings of December 12, 1966 Meeting

The December 12 meeting of the Executive Board was a dinner meeting held at the home of the Chairman, Dr. Dryden. Present were Drs. Camalier, Corley, Ecker, Gay, Holden, Nicklas, Rapee, Wilner, and Mr. Cooley, Secretary. The

meeting was called to order by Dr. Dryden at 8:30 p.m.

The minutes of the November 21 meeting were approved as mailed.

Committee Meetings: The Secretary reported the following committees had met since the last meeting of the Board:

- December 6 Ad Hoc Committee on Licensure
- 7 Public Welfare Committee
- 7 Fee Review Committee
- 8 Liaison Committee with the Clergy

It was voted to approve a request from the Committee on Liaison with the Clergy to cooperate with the AMA Department of Medicine and Religion in establishing a pilot program at Wesley Theological Seminary.

Report on Clinical Session of AMA: Dr. Camalier reported for himself and Dr. Holden on actions taken at the AMA Clinical Session. Several items were referred as follows:

1. The Millis Report on graduate education of physicians to the Committee on Liaison with Medical Schools and Hospitals.

2. The Utilization Committee report of the Council on Medical Services to the Society's Hospital Utilization Committee.

3. The report on "the disposition of fees for professional services by house officers and other salaried physicians" to the Committee on Liaison with Medical Schools and Hospitals.

Grievance Committee: In view of disputes that have occurred between physicians, the Secretary was requested to make note of such cases for referral to the Grievance Committee or to the Committee on Ethics and Professional Conduct and that the Executive Board be informed of actions taken by either Committee.

Progress Report on Public Law 89-239: It was voted to house Dr. Thomas W. Mattingly in the Medical Society's headquarters at least for the present. He is to assume the task of Coördinator for this project on January 3, 1967.

Annual Business Meeting for 1967: The question as to where and when this meeting should be held was left to the President and the Executive Director.

Miscellaneous Business

A letter from Dr. Herbert P. Ramsey regarding several plaques that had been in the old building was considered and the Board was assured that the plaques were in safekeeping awaiting proper display.

The disposition of the books from the old library was left to the House and Building Fund Committee.

The Secretary reported on the action taken by the Metropolitan Area Medical Council concerning the article in *Life* magazine on Georgetown University's proposed new hospital. It was agreed to approve the letter and return it to the President of the Area Medical Council although there was considerable dissent as to its value.

It was voted that the TWX equipment be discontinued since the AMA was no longer paying for it.

Meetings

An all-day **Postgraduate Seminar on "Clinical Applications of Advances in Cancer Research"** sponsored by the American Cancer Society, D. C. Division, will be held at Georgetown University Medical Center, Saturday, March 11, in the Gorman Auditorium of the Hospital. Attendance will be limited to the first 290 who apply. A registration fee of \$5.00 will include the cost of luncheon and afternoon reception. For further information telephone Dr. John F. Potter, 625-7118.

The Washington Psychiatric Society, in conjunction with Georgetown University School of Medicine and Sibley Memorial Hospital, will sponsor a **Symposium on Mental Depression** on Sunday, March 12, at 1:15 p.m. at the Washington Hilton Hotel. Speakers and topics to be presented will be announced later.

The Department of Preventive Medicine and Public Health of Howard University College of Medicine is sponsoring a 2-day conference, March 13 and 14, on **"The Health Status of the Negro Today and in the Future."**

Dr. Paul B. Cornely, Professor and Head of the Department, will preside at the morning session, March 13. At 9:15 Dr. Kenneth Clement, Director of the Mt. Pleasant Medical Center in Cleveland and Past President of the National Medical Association, will give the opening address on the subject, "The Health Concerns of the Negro—Today and for the Future."

On both days there will be 5 workshop sessions, with attendance by invitation, chairmaned by

medical leaders of national prominence. The topics to be discussed will be: "Major Health Problems of the Negro," "Health and Medical Care for the Negro," "The Negro Community as a Source of Health Manpower," "Health Attitudes and Behavior of the Negro which Affect Health Care and Utilization of Services," and "The Negro and His Physical Environment." The same workshop sessions will be continued under different chairmen on March 14. Workshop summaries will be presented at a general session, March 14, at 2 p.m., when Dr. Harold H. Whitted, Associate Professor of the Department of Preventive Medicine and Public Health at Howard University, will preside.

The Eighteenth Annual Meeting of the Northern Virginia Clinical Assembly will convene at the Marriott Twin Bridges Hotel at 8:00 a.m. on Wednesday, March 15. This annual meeting is sponsored by the Medical Council of Northern Virginia, which consists of representatives from the Medical Societies of Alexandria City, Arlington and Fairfax Counties, and is attended by physicians from Virginia, Maryland, and the District of Columbia.

The program this year, to be presented by the Bureau of Medicine and Surgery of the United States Navy, will include a wide range of subject matter, from submarine medicine to aerospace medicine, and will interest all doctors regardless of their specialty. Program inquiries should be sent to the Fairfax County Medical Society, 200 Little Falls Street, Falls Church, Virginia 22046; telephone (703) 532-0500.

The 44th Annual Meeting of the American Orthopsychiatric Association will convene in Washington, March 20-23, at the Washington Hilton Hotel. There will be 65 sessions, 30 panels, and 52 workshops devoted to basic clinical and social problems of vital concern to the mental health field.

Non-members are welcome at the annual and post-conference meetings as full participants. A preliminary program is available on request from Marion Langer, Ph.D., Executive Secretary of the Association, 1790 Broadway, New York, N. Y. 10019, or from the Co-chairmen of Local Arrangements, William Stark, M.D., 5415 Connecticut Avenue, N.W., Washington, D. C. 20015 and Irene C. Hypps, Ph.D., 1625 First Street, N.W., Washington, D. C. 20001.



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A Postgraduate Course on the Evaluation and Treatment of Learning Problems in Children will be presented, May 24-26, by the Department of Neurology of Children's Hospital in conjunction with the George Washington and Georgetown University Schools of Medicine. This is an interdisciplinary course designed to provide the practicing physician with techniques of evaluation based upon recent research developments in a fashion relevant to the processes by which modification may be made. Registration fee is \$15.00. Further information may be obtained by writing to Dr. Mark N. Ozer, Department of Neurology, Children's Hospital, 2125 13th Street, N.W., Washington, D. C. 20009.

General News

The Judicial Council of the American Medical Association has ruled that an **ophthalmologist may employ an optometrist** to assist him, and physicians may teach in recognized schools of optometry for the purpose of improving the quality of optometric education. The Council Chairman, Dr. E. G. Shelley, said, however, that the ophthalmologist has an ethical responsibility to make sure patients will not be given the impression the optometrist is also a doctor of medicine. This statement was reported in *The AMA News* of December 26, 1966.

The Georgetown University, Division of Ophthalmology, announces its third 2-year **Course for Ophthalmic Assistants**, beginning July 1, 1967. The Course, which will consist of 4 semesters with 2 weeks' annual vacation, is open to both men and women, ages 20 to 40 years. Applicants must have 2 years of college, or certification as a registered nurse or practical nurse, or 2 years of office experience with sponsorship by a certified ophthalmologist. There is no tuition. An annual stipend of \$2,400 will be paid to each trainee. Qualified applicants should write for a brochure and application forms to Dr. P. Y. Evans, Georgetown University Medical Center, Division of Ophthalmology, Washington, D. C. 20007.

A new organization, the **International Society of Medical Directors of Chronic Disease Facilities**, was recently founded in Las Vegas, Nevada. Dr. Bertram Moss, of Chicago, was elected Chairman of the new Society and Dr.

A National Congress on Environmental Health Management will be conducted by the American Medical Association in New York City, April 24-26, at the Hotel Americana. There will be 5 panels concerned with (1) medical investigations necessary to establish health goals for administrative programs; (2) essentials of effective management with emphasis on coordinating air and water pollution programs; (3) the roles, responsibilities and resources of all groups in society which are involved in environmental management; (4) examples of new approaches to management of wastes and resources, and (5) mission and tasks of medical societies as action units around the country in environmental health.

Further information about the Congress may be obtained from the Department of Environmental Health of the AMA, 535 North Dearborn Street, Chicago, Ill. 60610.

The Tenth Annual Joint Cardiac Symposium of the Heart Association of Northern Virginia, Inc., and the Washington Heart Association will be held in the Persian Room of the Marriott Twin Bridges Motor Hotel on Thursday, April 27.

Thomas G. Kalkof, of Erie, Pa., Secretary. Mr. Samuel N. Turiel, of Chicago, was named Executive Director, with headquarters at 333 North Michigan Avenue, Chicago, Ill. 60601.

With the Medicare ruling that every extended-care facility have a full-time medical director for all patients, both those covered by Medicare as well as those who are not, it seemed advisable to form a new organization to bring together physicians who will provide those services. The primary membership classification will be Fellow, available to those physicians who serve as medical directors of chronic disease facilities, such as nursing homes, convalescent centers, rehabilitation centers, and chronic disease hospitals. Applicants for membership and those desiring more information about the new Society should contact Mr. Turiel at the Chicago address or telephone (312) 782-1811.

In an effort to help mentally retarded children, **Georgetown University** is planning to add a new training, research and rehabilitation facility to its Medical Center. The new facility will be known as the **Child Diagnostic and Development Center** and will augment the first mental retardation clinic established in Washington 10 years ago by Georgetown University. Plans call for the 3-story Center to be completed, adjacent to the Hospital and Gorman Diagnostic Building, by the summer of 1969. The cost will be \$2 million, of which \$1.5 million will be provided by the Federal Government. The Center will operate as an integral part of the Department of Pediatrics, headed by Dr. Philip L. Calcagno, who has been instrumental in developing the Mental Retardation Program at Georgetown University.

Dr. Henry G. Wagner is the newly appointed Associate Director for Intramural Research of the National Institute of Neurological Diseases and Blindness in Bethesda, Md., effective December 12, 1966. A Washingtonian, he received his medical degree from George Washington University. He has been associated with the U. S. Navy for 24 years, first serving as a flight surgeon and as a research medical officer. Prior to his new appointment he was Director of the Aerospace Crew Equipment Laboratory at the Naval Air Engineering Center in Philadelphia.

Dr. Jack W. Millar has been appointed Professor and Chairman of the new Department of Epidemiology and Environmental Health at the George Washington University School of Medicine. This department replaces that of Preventive

Medicine and Community Health, formerly headed by Dr. Joseph F. Sadusk, Jr. Its educational programs will extend from the training of preventive health assistants to graduate studies for physicians.

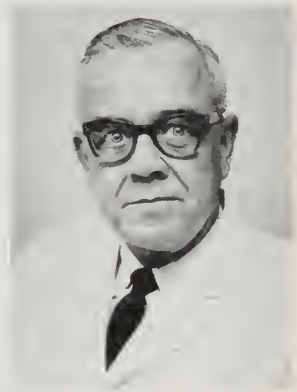
Captain Jack W. Millar, MC, USN, comes to George Washington University from the Navy's Bureau of Medicine and Surgery, where he has been Director of the Preventive Medicine Division since 1960. He graduated in medicine from George Washington University in 1947.

Georgetown University has received a grant of \$176,637 from the John A. Hartford Foundation of New York to develop better life-support systems for patients suffering from emphysema, bronchitis, asthma, and other similar lung diseases. Research under the grant will be performed by a team of scientists and technicians headed by Dr. Kenneth M. Moser, Chief of the Pulmonary Division at Georgetown Hospital and Assistant Professor of Medicine in the School of Medicine.

Personals

Dr. William A. Howard, pediatrician and allergy specialist, has been elected Chairman of the Medical Staff of Children's Hospital. He succeeds Dr. Milton M. Greenberg, who has served as Chairman for the past 3 years and who has been elected to the Hospital's Board of Directors.

**Dr. Howard,
new Chairman of
Medical Staff,
Children's
Hospital**



Dr. Howard has been affiliated with Children's since 1937 when he was appointed chief resident; he is presently Chief of its Allergy Division. A graduate of Tulane University, he is Clinical Professor of Pediatrics at George Washington University School of Medicine and State Chair-

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man for the D. C. Chapter of the American Academy of Pediatrics.

Dr. John H. Bayly was named Vice Chairman of the Medical Staff and **Dr. Harold M. Hobart** was reelected Secretary-Treasurer.

Dr. William M. Hart has been appointed Professor and Head of the Section of Ophthalmology in the Department of Surgery at the University of Missouri. Dr. Hart was one of the founders of the Eye Research Foundation of Bethesda, which is an affiliate of the University of Maryland. He has been Director of the Foundation and Clinical Professor of Ophthalmology at the University. The research program of the Foundation will be continued under the Acting Directorship of Dr. C. Richard Cavanaugh.

Dr. Robert J. Benford, former Air Force surgeon, has been named Editor of *U. S. Medicine* and Executive Vice President of the publishing corporation, effective in January. Since his retirement from the Air Force in 1960, after a distinguished military career, Dr. Benford has been Director of Medical Relations for the Pharmaceutical Manufacturers Association.

Dr. Benford has had extensive experience in medical editing. He was Editor of the *Journal of Aviation Medicine* (now *Aerospace Medicine*) for 5 years, 1955-1960. Concurrently, for an overlapping 7-year period, he was Air Force Editor, and later Editor-in-Chief, of the *United States Armed Forces Medical Journal* and its supplement, the *Medical Technicians Bulletin*. In this military assignment he was also Director of the Armed Forces Medical Publication Agency of the Department of Defense. He is an Associate member of the D. C. Medical Society.

Dr. Michael J. Halberstam was one of 2 who received runner-up awards of \$500 each in the 1966 Medical Economics Awards essay contest. Dr. Halberstam's article was entitled, "Can We Teach New Doctors Compassion?"

Physicians who wish to participate in the 1967 Medical Economics Awards may request information from the Awards Editor, Medical Economics, Oradell, N. J. 07649.

Dr. John B. Brady, an Associate member of the D. C. Medical Society, has been elected President of the Medical and Dental Staff of Holy Cross Hospital in Silver Spring, Md. He is also President of the Montgomery County (Md.) Gynecological Society.

Dr. A. Magruder MacDonald is the most recent physician to be added to the role of distinguished alumni of old Central High School. The award was made at the 58th Annual Reunion of the Central High School Alumni Association, December 26, 1966, at the Equitable Life Insurance Building. After serving as head of the medical staff of Sibley Memorial Hospital for a number of years, Dr. MacDonald relinquished this post in January of this year but continues as a staff member. An alumnus of Georgetown University School of Medicine, he served as District Coroner from 1934 to 1962. He is a Life member and Past President of the D. C. Medical Society.

Dr. Thomas F. McDermott has been elected Vice Chairman of the Section on Anesthesiology of the Southern Medical Association.

The following members of the Medical Society of the District of Columbia were elected to fellowship in the American College of Physicians on November 12: **Drs. John J. Canary, Robert W. Langevin, and Ann S. Peterson.** Elected to Associate membership the same date were **Drs. P. Gregg Rhodes, Morton W. Shapiro, and Joseph P. Swift.** Dr. Shapiro, of Rockville, Md., is an Associate member of the D. C. Medical Society.

Dr. David H. Rosenfeld was elected to fellowship in the American College of Radiology, February 2, during the Annual Meeting of the College in Los Angeles.

Dr. Foley joined the Medical Corps of the U. S. Army in 1908 and continued in the service until 1915. As resident physician, he trained for a year in orthopedic surgery at Massachusetts General Hospital in Boston.

During World War I he enlisted in the Medical Reserve Corps of the U. S. Army and served as Chief of Orthopedic Surgery at Walter Reed General Hospital from 1917 to 1918 and overseas for a year as consultant in orthopedic surgery to the A.E.F. He continued on active duty in the Medical Reserve Corps following the War and rose from the rank of Major to Colonel. In 1943 he was Commander of the Augustus Gardiner Post of the American Legion.

After World War I he began private practice in orthopedic surgery in offices at 1835 Eye Street, N.W. He was assistant orthopedic surgeon at both Providence and Emergency Hospitals and orthopedic surgeon at Gallinger Municipal (now D. C. General) Hospital. He was Clinical Professor of Orthopedic Surgery at George Washington University School of Medicine from 1920 to 1925.

An Active member of the D. C. Medical Society from 1907 to 1908, he was reelected to membership in 1916 and became a Life member in 1956. He was certified by the National Board in orthopedic surgery. He was a member of the American Medical Association, the American Academy of Orthopedic Surgery, and a member and Past President of the Hippocrates-Galen Society.

He is survived by 2 sons, Dr. Thomas M. Foley, Jr., an Active member of the D. C. Medical Society, and Frederick M. Foley, of Clearwater, Fla. A sister, Mrs. Theresa F. Kimball, with whom he made his home the last few years of his life, resides at 140 Quince Street, San Diego, Calif.

Obituaries

Thomas Madden Foley, M.D.

(1876-1966)

DR. THOMAS M. FOLEY, a Life member of the Medical Society of the District of Columbia, died in San Diego, Calif., July 18, 1966. His death was only recently reported to the Executive Offices of the Medical Society.

Dr. Foley was born in Philadelphia, December 14, 1876, to Mark J. and Mary Madden Foley. He attended the public schools of the District of Columbia and St. John's College. After graduating in medicine from George Washington University in 1905, he interned the following year at Providence Hospital.

Harry Lee Claud, M.D., F.A.C.S.

(1897-1966)

DR. HARRY LEE CLAUD, distinguished Washington surgeon, who had practiced in the District for 42 years, died, December 6, 1966 at Doctors Hospital. He was one of the founders of Doctors Hospital and was serving as Vice President of the Board of Directors at the time of his death. His offices were in the Columbia Medical Building at 1835 Eye Street, N.W.

Dr. Claud was born, December 23, 1897, in Southampton County, Va., to Joseph G. and Laura Copes Claud. He received his medical

degree from the Medical College of Virginia in Richmond in 1921. He interned at the Retreat for the Sick in Richmond for a year and for another year at Walter Reed Hospital in Washington. He was Associate Surgeon for the Newport News Ship Building and Dry Dock Company in Newport News, Va. in 1922. After serving as associate to the late Dr. Harry H. Kerr from 1924 to 1926, he began his own private surgical practice.

For many years, until 1956, he was Senior Attending Surgeon at Garfield Memorial Hospital, later Consulting Surgeon to the Washington Hospital Center when Garfield merged into the Center. He was a member of the Executive Committee and teaching staff of Doctors Hospital from its opening in 1940. He served as associate head of surgery from 1940 to 1958 and as head of the Department of Surgery from 1964 to September, 1966, when he was named Emeritus Head of the Department. For a long time he was Chairman of the Board of Trustees of the William Mercer Sprigg Memorial Library and Chairman of the Library Committee of Doctors Hospital.

He was a diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and member and Past President of the Washington Academy of Surgery and the South-eastern Surgical Congress. He had served as Chairman of the Council of the Southern Medical Association and as Vice President of the American Therapeutic Society. An Active member of the Medical Society of the District of Columbia since 1925, he had served the Society on many of its committees. He became a Life member on January 1, 1965. He was a member of the American Medical Association, the Pan American Medical Society, and the International Medical Society. He belonged to the Chevy Chase Club.

Surviving him are his wife, Mrs. Julia Sarvay Claud, and a daughter, Katherine, of the home address, 4641 Garfield Street, N.W. Another daughter, Mrs. Charles Kappler, lives at 4912 Tilden Street, N.W. He also leaves 2 sisters, Mrs. Jennings Connaly, of Hopewell, Va., and Mrs. Richard Ball, of Raleigh, N. C.

Marshall E. Brushhart, D.D.S.

(1896-1966)

DR. MARSHALL E. BRUSHART, an Associate member of the D. C. Medical Society, died, October 24, 1966. His offices were at 1800 Eye Street, N.W.

Dr. Brushhart was born in Burlington, Michigan, July 24, 1896, to Thomas and Mary Josephine

Brushart. He received his degree in dental surgery from the University of Michigan in 1925 and had practiced in the District since that time.

He was elected to Associate membership in the D. C. Medical Society in 1931. He was also a member of the American Dental Association and the D. C. Dental Society. He belonged to the Kenwood Golf Club and to the University Club.

Surviving him are his wife, Mrs. Ruthanna Maxwell Brushart, of the home address, 6412 Highland Drive, Kenwood, Md. He also leaves a son, Thomas Marshall Brushart.

Metabolic Bone Disease—Frame

(Continued from page 92)

techniques, radiokinetic studies for bone accretion and bone resorption, and total balances for calcium and phosphorus should be performed concomitantly in patients with a variety of medical bone diseases before the various causative factors can be better defined.

References

1. BYWATERS, E. G., DIXON, A. S., AND SCOTT, J. T.: *Ann. Rheum. Dis.*, 1963, **22**, 171.
2. ZVAIFLER, N. J., REEFE, W. E., AND BLACK, R. L.: *Arthritis Rheum.*, 1962, **5**, 237.
3. MINTZ, D. H., CANARY, J. J., CARREON, G., AND KYLE, L. H.: *New Eng. J. Med.*, 1961, **265**, 112.
4. SCOTT, J. T., DIXON, A. S., AND BYWATERS, E. G.: *Brit. Med. J.*, 1964, **1**, 1073.
5. PRESTON, F. S., AND ADICOFF, A.: *New Eng. J. Med.*, 1962, **266**, 968.
6. KOLB, F. O., AND STEINBACH, H. L.: *J. Clin. Endocr.*, 1962, **22**, 59.
7. COSTELLO, J. M., AND DENT, C. E.: *Arch. Dis. Child.*, 1963, **38**, 397.
8. STANBURY, S. W., AND LUMB, G. A.: *Medicine (Balt.)*, 1962, **41**, 1.
9. GOLDEN, A., CANARY, J. J., AND KERWIN, D. M.: *Amer. J. Med.*, 1965, **38**, 562.
10. FROST, H. M.: *Bone Remodelling Dynamics*. Springfield, Ill.: Thomas, 1963.
11. SMITH, R. W., JR., AND FRAME, B.: *New Eng. J. Med.*, 1965, **273**, 73.
12. SMITH, R. W., JR., RIZEK, J., AND FRAME, B.: *Amer. J. Clin. Nutr.*, 1964, **14**, 98.

Reporting Physical Abuse of Children—Silver et al

(Continued from page 130)

11. Office of the General Counsel, AMA: Battered child legislation. *Ibid.*, 1964, **138**, 386.
12. PAULSEN, M. G., AND OTHERS: Child abuse reporting laws—some legislative history. *George Washington Law Review*, 1966, **34**, 482.
13. PAULSEN, M. G.: *Children*, 1966, **13**, 42.
14. SILVER, L. B., BARTON, W., AND DUBLIN, C. C.: *J.A.M.A.*, 1967, **199**, 65.

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ALL-DAY OR ALL-NIGHT RELIEF



Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate), 50 mg. of phenylpropanolamine hydrochloride, and 2.5 mg. of isopropamide, as the iodide.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. **Contraindications:** Patients with glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction. **Precautions:** Use with caution in the presence of hypertension, hyperthyroidism, or coronary artery disease; and, in patients who may operate vehicles or machinery, warn of possible drowsiness. **Note:** Since the iodine in isopropamide iodide may alter PBI test results and will suppress ¹³¹I uptake, it is suggested that 'Ornade' be discontinued one week before these tests. **Side effects:** Drowsiness; excessive dryness of nose, throat, or mouth; nervousness; or insomnia may occur rarely, but are usually mild and transitory. Other known possible side effects of the individual ingredients are: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, and difficulty in urination.

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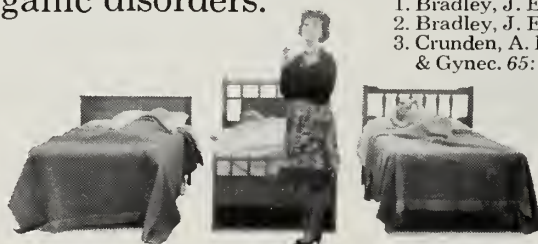
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1. Bradley, J. E., *et al.*: J. Pediat. 38:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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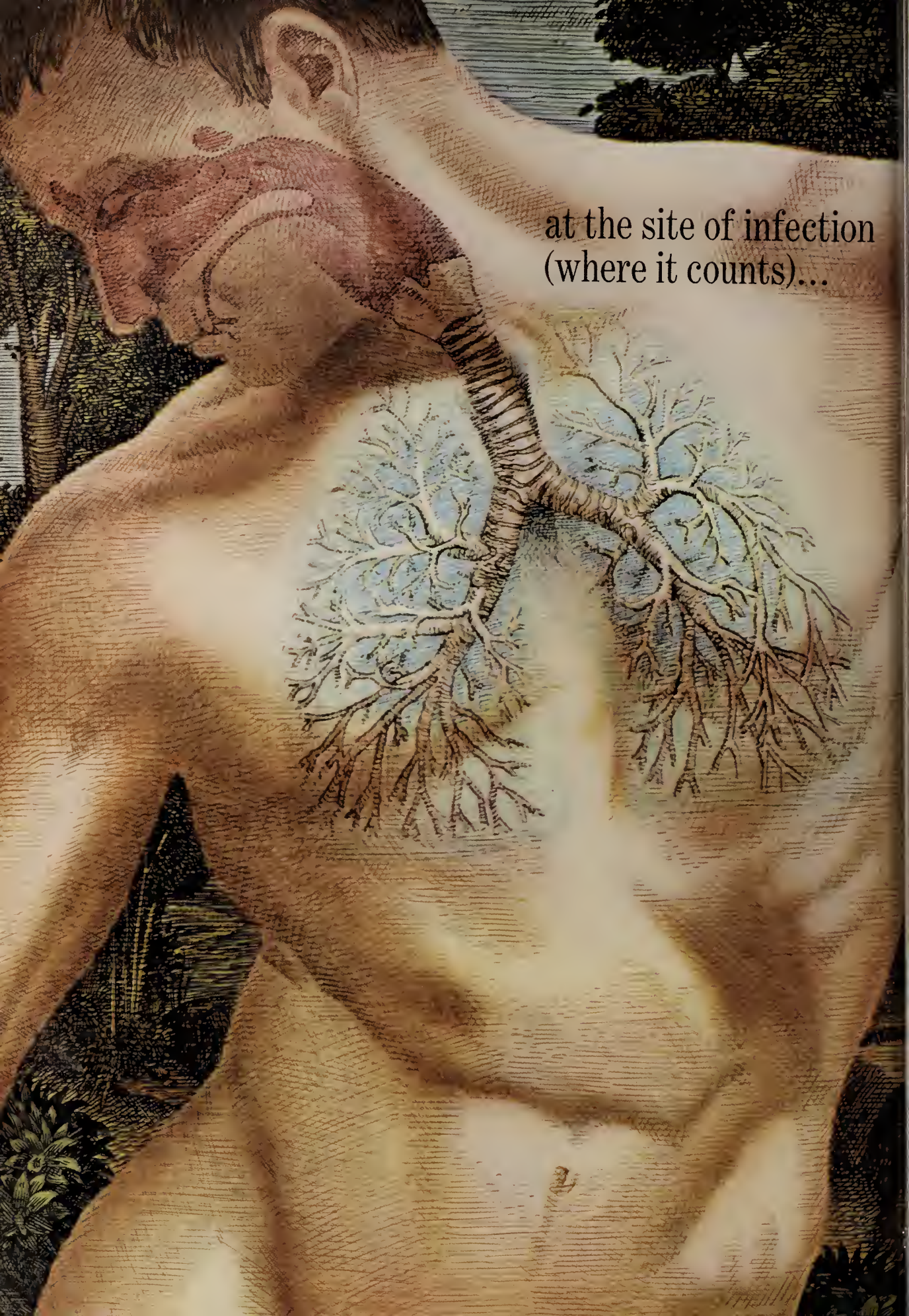
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(where it counts)...



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Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food¹⁻³

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.^{1,2} Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.^{1,3}

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Ilosone® 700121
Erythromycin Estolate 

(See next page for prescribing information.)

Ilosone® the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalofluorescence flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

Ilosone Drops

Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.
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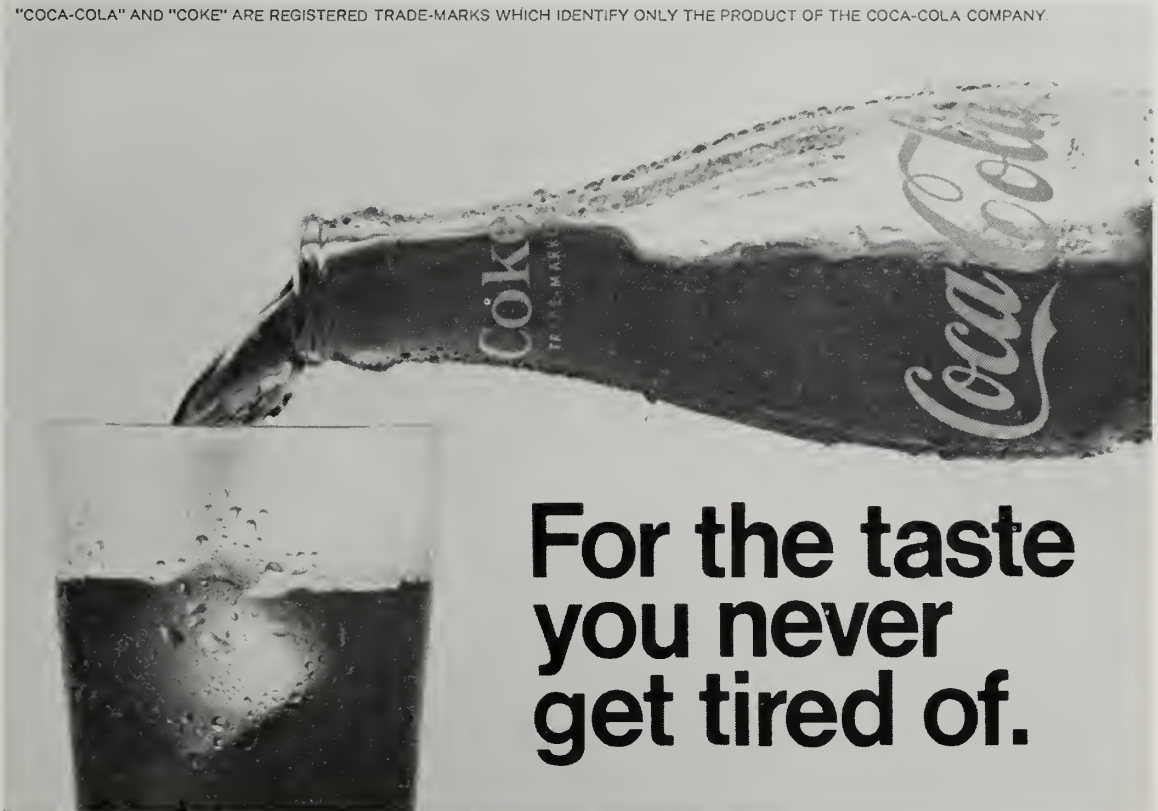
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dermatoses
that start from
scratch**



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Cream

The "itch-scratch" cycle usually associated with inflammation often results in infected dermatoses because broken skin surfaces are particularly vulnerable to pathogenic bacteria.¹ To treat infected inflammatory dermatoses, Neo-Synalar Cream combines the most active topical corticosteroid with a highly reliable antibiotic generally reserved for topical application.

In Neo-Synalar, fluocinolone acetonide controls the inflammation and provides rapid relief from associated pruritus. At the same time, its antibacterial component—neomycin—combats superficial infection caused by many gram-positive and gram-negative bacilli² that often colonize and thrive on abraded skin.¹ A specially formulated vanishing cream base that is greaseless and odor free makes Neo-Synalar cosmetically appealing, and encourages greater patient cooperation.

controls the infection

stops the scratch

Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

References: 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. 2. Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.

Vistaril

(HYDROXYZINE)

**tranquilizes
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or drug
dependency**

Clinical Experience

In its eight-year record of experience in which over one billion doses have been prescribed, there is no evidence of addiction to hydroxyzine.

Clinical Background

In over 500 published studies involving 15,000 individual cases, neither dependency nor addiction has been reported with hydroxyzine.

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Even in the anxious, dependent, psychoneurotic...

Four hundred and fifty patients, most of them classified as functional neurotics, were treated with hydroxyzine for periods of five months to four and one-half years. Sustained good-to-excellent relief from symptoms of anxiety and tension was attained in 401 (89%) of the series.

"Cumulative effects, habituation or addiction to hydroxyzine was not noted during the entire period of this study."

Shalowitz, M.: Int. Rec. Med. 174:357, June, 1961.

Even in the classically dependent alcoholic...

Vistaril (hydroxyzine) was evaluated for relief of postalcoholic syndrome in 52 chronic alcoholic outpatients over a period of two to four weeks. Many patients received partial to complete relief of psychomotor agitation, anxiety, irritability, craving, insomnia, depression, anorexia, nausea and tension. *"No evidence of toxicity or habituation was noted."* *"No difficulty was experienced in discontinuing medication."*

Greenhouse, H. R.: Med. Times 91:1069, November, 1963.

Of 326 alcoholics treated with hydroxyzine for the postalcoholic syndrome, satisfactory control was achieved in 276 (85%). *"As is not the case with other tranquilizers, hydroxyzine has no published record of causing addiction and dependence or withdrawal symptoms."* Goldman, H. I.: Southwest. Med. 42:276, June, 1961.

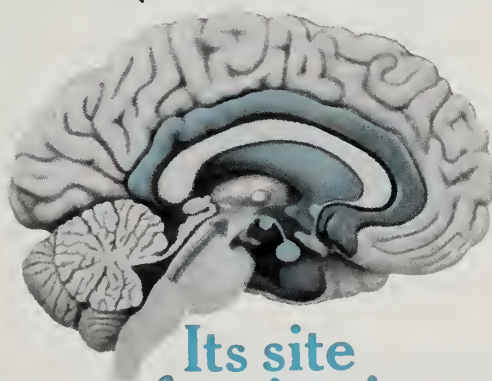
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One hundred and fifty-two institutionalized female patients were studied on long-term, high-dose therapy.

Even at high dosages, hydroxyzine *"... did not produce either euphoria or depression."*

Lapolla, A.: Clin. Med. 8:1332, July, 1961.

No other tranquilizer is as precise, as uncomplicated as **Vistaril[®]** (HYDROXYZINE)



Its site of action is the seat of anxiety

turn page for brief summary...

BRIEF SUMMARY

Contraindications: Hypersensitivity to hydroxyzine. The parenteral solution, for intramuscular or intravenous use, must not be injected subcutaneously or intra-arterially.

Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate. Until adequate data are available, to establish safety in early pregnancy, hydroxyzine is contraindicated during this period.

Precautions: Hydroxyzine may potentiate the action of central nervous system depressants. In conjunctive use, dosage for these drugs should be decreased, as much as 50%. Because drowsiness may occur, patients should be cautioned against driving a car or operating dangerous machinery. The usual precautions for intramuscular injection should be followed; soft-tissue reactions have rarely been reported when proper technique has been used. On reported intravenous injection a few instances of digital gangrene have occurred distal to the injection site, considered to be due to inadvertent intra-arterial injection or possibly periaarterial extravasation. Therefore, particular caution should be observed to insure injection only into intact veins; avoid either intra-arterial injection or extravasation. Intravenous administration should be accomplished slowly, no faster than 25 mg. per minute, and not to exceed 100 mg. in any single dose.

Adverse Reactions: Drowsiness may occur; if so, it is usually transitory and may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may occur with higher doses. Involuntary motor activity has been reported in some hospitalized patients given higher than recommended dosage.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2-3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. This compares with the normal red cell destruction from which approximately 8 Gm. of hemoglobin are liberated every 24 hours. If the hydroxyzine is diluted with 50 cc. of normal saline and given during a period of four minutes or more, this phenomenon does not occur.

Supply: Vistaril (hydroxyzine pamoate) Capsules: Equivalent to 25 mg., 50 mg., 100 mg. hydroxyzine HCl. Vistaril (hydroxyzine pamoate) Oral Suspension: Equivalent to 25 mg. hydroxyzine HCl per 5 cc. teaspoonful. Vistaril (hydroxyzine HCl) Parenteral Solution: 25 mg./cc.—10 cc. vial and 50 mg./cc.—2 cc. and 10 cc. vial; Isoject,® 25 and 50 mg. per cc., 1 cc. per unit.

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BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received.

Atlas of External Diseases of the Eye. Volume I. Congenital Anomalies and Systemic Diseases.

DAVID D. DONALDSON, M.D. Price, \$35.00. Pp. 169, with 83 figures, 105 stereoscopic views in full color on 15 View-Master® reels, and a View-Master® compact viewer. St. Louis: Mosby, 1966.

Disorders of the Respiratory Tract in Children, by 29 Authorities. Edited by EDWIN L. KENDIG, JR., M.D. Price, \$26.00. Pp. 834, illustrated. Philadelphia: Saunders, 1967.

Ciba Foundation Study Group No. 24. Histones: Their Role in the Transfer of Genetic Information. Edited by A. V. S. DE REUCK, M.Sc., D.I.C., A.R.C.S., AND JULIE KNIGHT, B.A. Price, \$3.50. Pp. 115, with 26 illustrations. Boston: Little, 1966.

Ciba Foundation Symposium: Touch, Heat and Pain. Edited by A. V. S. DE REUCK, M.Sc., D.I.C., A.R.C.S., AND JULIE KNIGHT, B.A. Price, \$14.00. Pp. 389, with 124 illustrations. Boston: Little, 1966.

Obesity and Health, A Source Book of Current Information for Professional Health Personnel. U. S. Department of Health, Education, and Welfare, Public Health Service, Division of Chronic Diseases, Heart Disease Control Program. Price (paper), 60 cents. Pp. 77, illustrated. Washington, D. C. 20402: U. S. Government Printing Office, 1966.

Ciba Foundation Study Group No. 23. Egg Implantation. Edited by G. E. W. WOLSTENHOLME, O.B.E., M.A., F.R.C.P., F.I.Biol., AND MAEVE O'CONNOR, B.A. Price, \$3.50. Pp. 112, with 25 illustrations. Boston: Little, 1966.

Ciba Foundation Symposium. The Thymus: Experimental and Clinical Studies. Edited by G. E. W. WOLSTENHOLME, O.B.E., M.A., F.R.C.P., F.I.Biol., AND RUTH PORTER, M.R.C.P. Price, \$15.00. Pp. 538, with 96 illustrations. Boston: Little, 1966.

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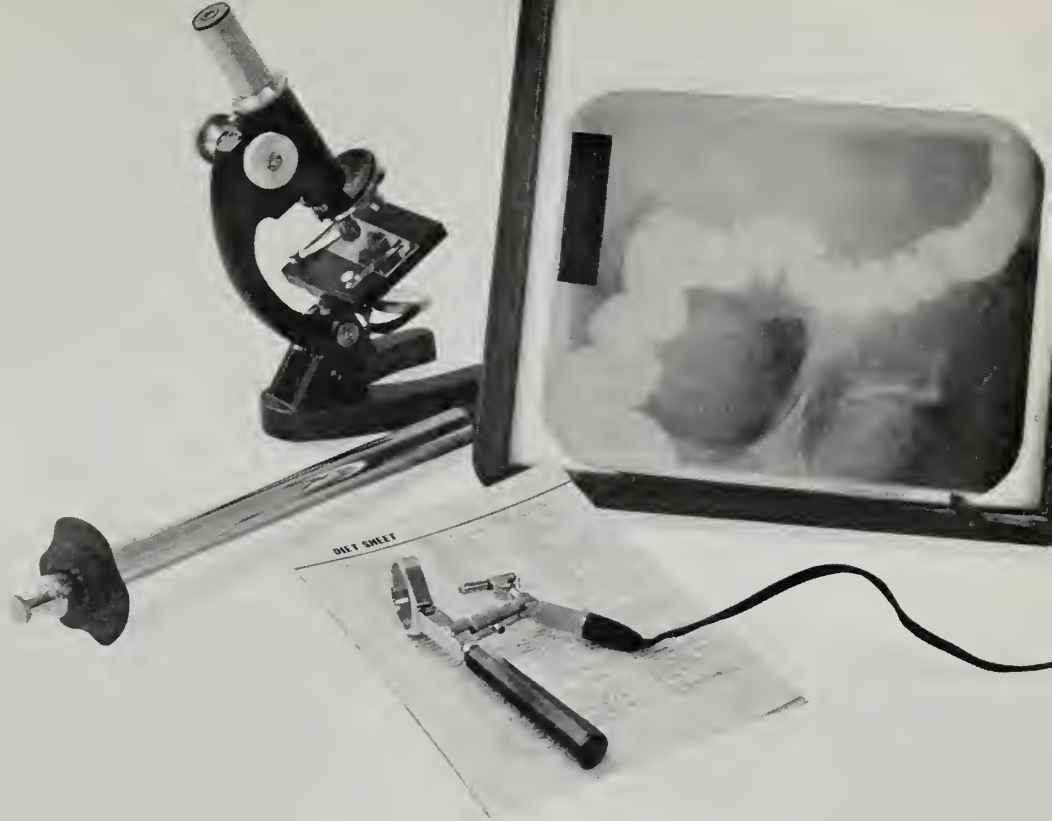
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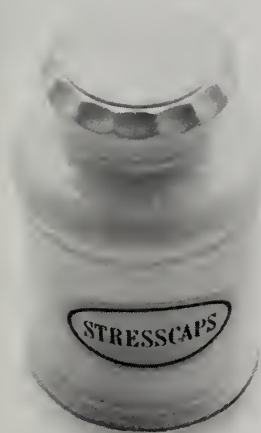
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Vitamin B ₆ (Pyridoxine HCl)	2 mg
Vitamin B ₁₂ Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

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(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials^{1,2}, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated^{1,2}—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



Brief
Summary
on next
page

ERYTHROCIN®-SULFAS

Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

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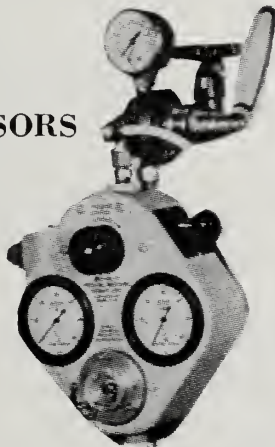
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T-text

A sharp needle just burst her fairy-tale bubble

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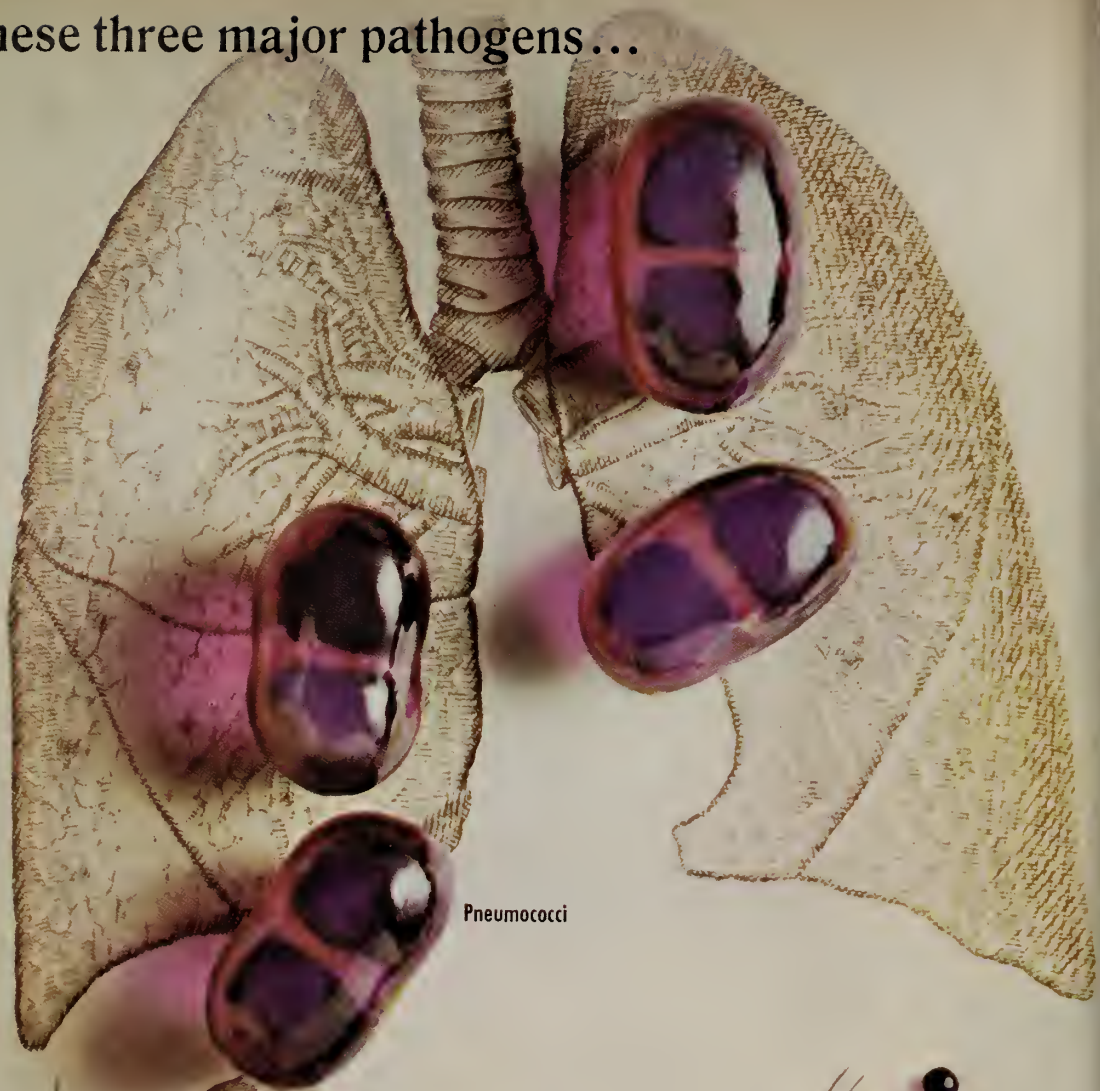
PHARMACOLOGY: Triaminic decongests and promotes drainage of nasal and paranasal passages, and prevents any further histamine-induced damage; the triple sulfonamides inhibit susceptible bacterial invaders. **INDICATIONS:** For congestion and infection of the upper respiratory tract caused by sulfa-susceptible organisms. **DOSAGE:** Adults: 2 to 4 tablets initially, followed by 2 tablets every 6 hours. Medication should be continued until patient has been afebrile for 3 days. **ADVANTAGES:** The advantages of Trisulfaminic in upper respiratory infections are: freedom from narcotics or alcohol; therapeutic reliability; safety; economy; ease of administration; freedom from potential sensitization to broad-spectrum antibiotics which may be reserved for lower respiratory or other infections caused by susceptible organisms. **CONTRAINDICATIONS:** Contraindicated in sulfonamide and antihistamine sensitivity, impaired renal function, pregnancy approaching term, and in premature infants and newborn infants during the first month of life. Do not use in patients with glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction.

WARNING: Use only after careful evaluation in patients with liver or renal damage, urinary obstruction, or blood dyscrasias. Deaths have been reported from hypersensitivity reactions with administration of sulfonamides. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed periodically. Sulfonamide therapy may potentiate the hypoglycemic action of sulfonylureas. **PRECAUTIONS:** Use with caution in patients with histories of significant allergy or asthma. Assure an adequate fluid intake. Because the antihistamines may cause drowsiness of varying degree, warn patients about activities requiring alertness such as driving a car or operating dangerous machinery. Use with caution in the presence of hypertension, hyperthyroidism, cardiovascular disease and diabetes. **ADVERSE REACTIONS:** As in all sulfonamide therapy, the following reactions may occur: headache, nausea, vomiting, diarrhea, icterus, hepatitis, pancreatitis, urticaria, rash, fever, cyanosis, hematuria, crystalluria, proteinuria, blood dyscrasias, petechiae, purpura, neuropathy and injection of the conjunctiva and sclera. If

one or more of these reactions occur, the drug should be discontinued. With antihistaminic therapy there have been reports of sedation varying from mild drowsiness to deep sleep, dizziness, lassitude, inability to concentrate, fatigue, incoordination, tinnitus, blurred vision, diplopia, euphoria, nervousness, insomnia, tremors, palpitation, hypotension, headache, chest tightness, urinary frequency, dysuria, tingling of the hands, dryness of the mouth, throat, and nose, gastrointestinal disturbances such as epigastric distress, anorexia, nausea, vomiting, constipation and diarrhea and very rarely, leukopenia and agranulocytosis. Adverse reactions reported with the use of sympathomimetic amines include anxiety, tension, restlessness, nervousness, tremor, weakness, insomnia, headache, palpitation, tachycardia, angina, elevation of blood pressure, sweating, mydriasis, anorexia, nausea, vomiting, dizziness, constipation, and dysuria due to vesicle sphincter spasm. **PACKAGE INFORMATION:** Trisulfaminic Tablets: Supplied in bottles of 100 tablets. **CAUTION:** Federal law prohibits dispensing without prescription.

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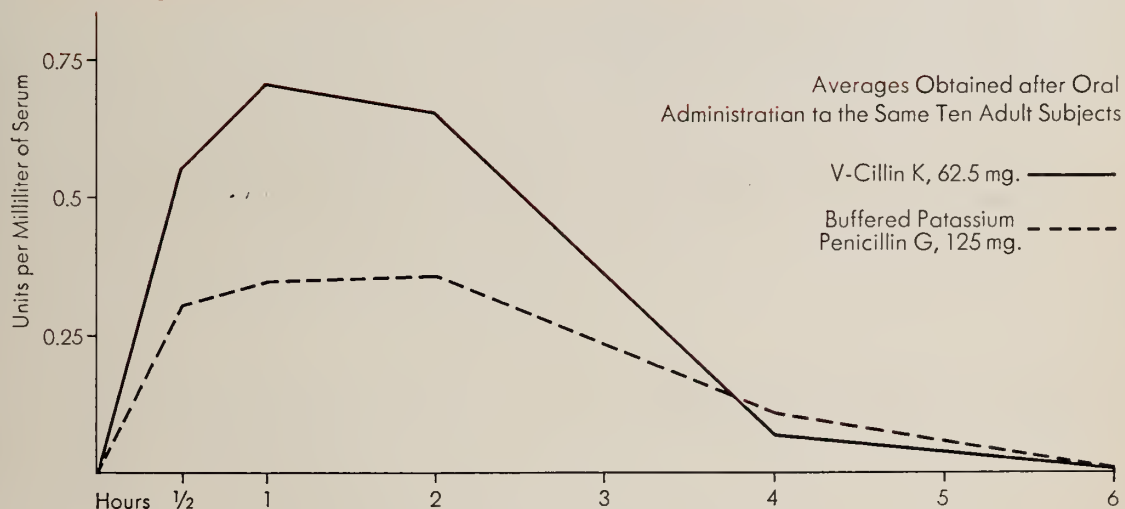
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Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food

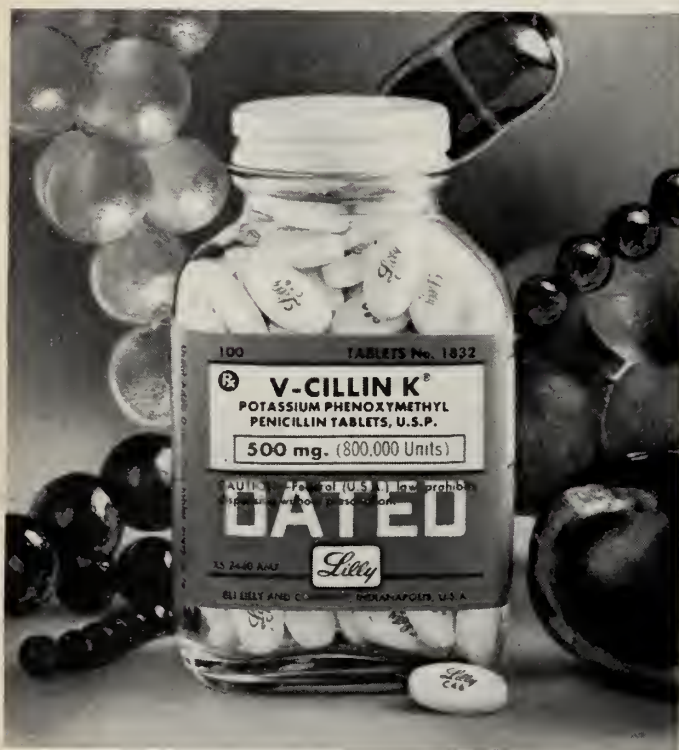


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Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

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those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

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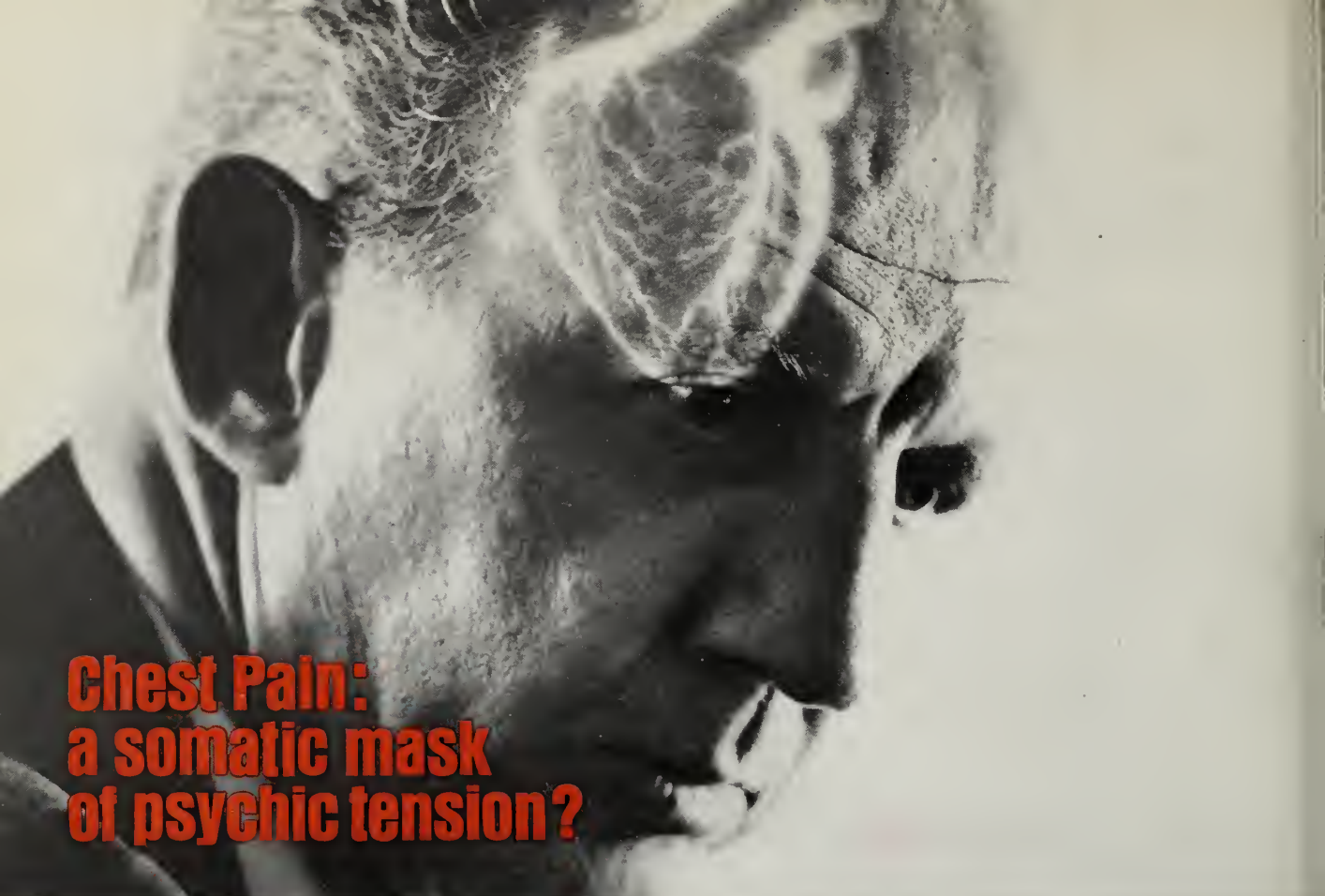
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Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazard-

ous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged over-dosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage — Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

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for somatic symptoms of psychic tension

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(diazepam)



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Chronic Ulcerative Colitis, Cirrhosis and Sarcoidosis

CAPT. N. P. TRUJILLO, L. S. HALSTEAD, M.D.,
AND H. E. TICKTIN, M.D.

Pneumothorax Simulating Appendicitis

MAJOR DAVID T. PITKETHLY

(Complete Index on page 5)

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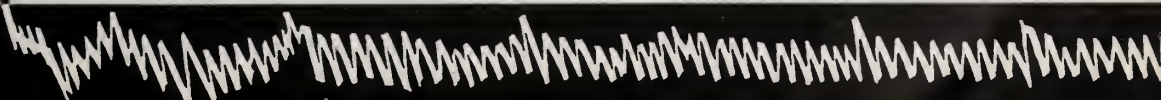
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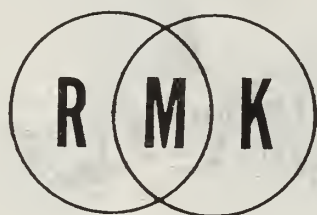
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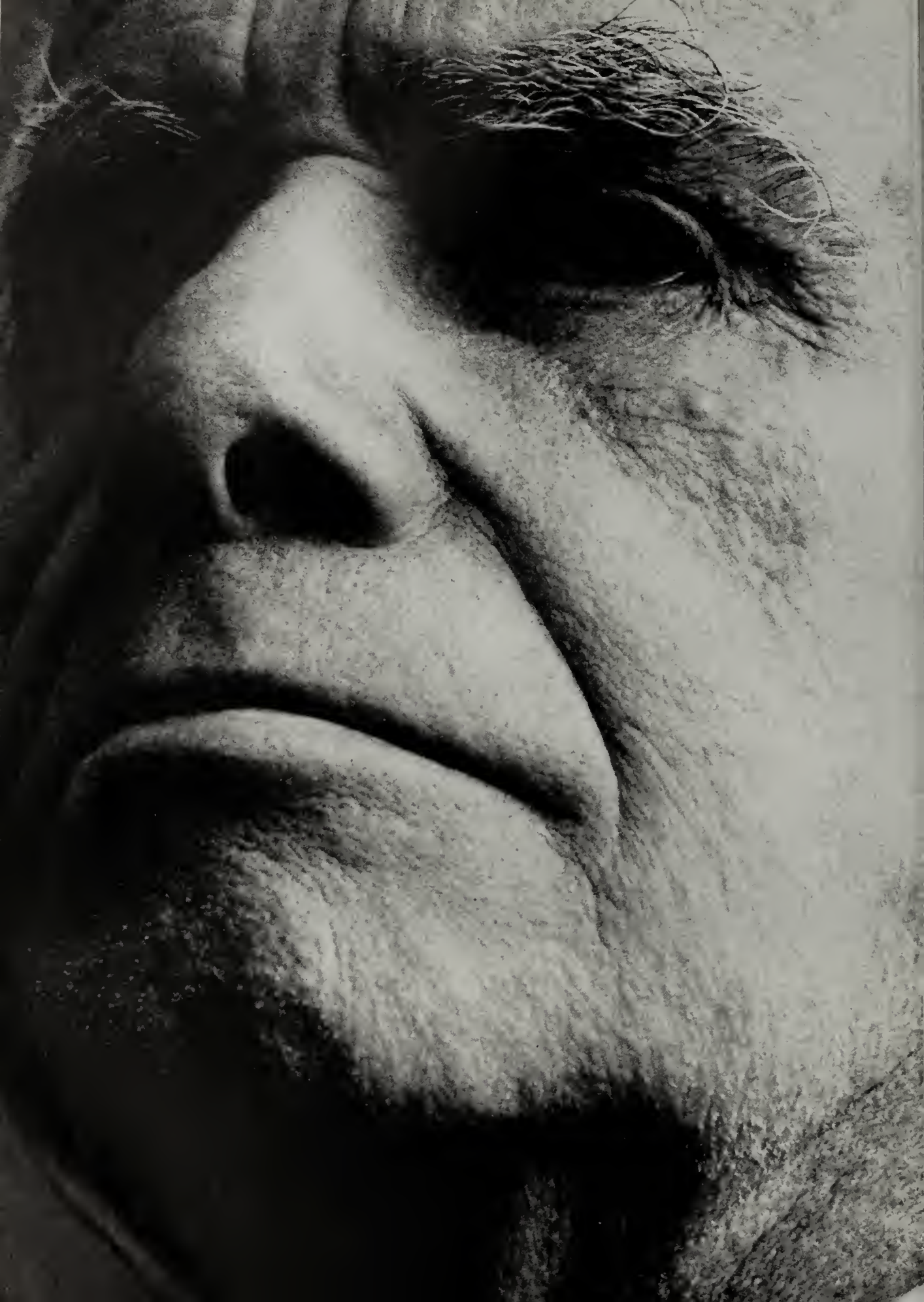
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Hydroxyzine has demonstrated its clinical effectiveness in the chemotherapeutic aspect of the total management of neuroses and emotional disturbances manifested by anxiety, tension, agitation, apprehension or confusion.

Indications: Total management in conditions of emotional stress requires in most instances a combined approach of psychotherapy and chemotherapy. Hydroxyzine has been found to be particularly useful for this latter phase of therapy in its ability to render the disturbed patient more approachable and amenable to psychotherapy in long-term treatment of the psychoneurotic and the psychotic, although it should not be used as the sole treatment of psychosis or of clearly demonstrated cases of depression.

Hydroxyzine is also useful in alleviating the manifestations of anxiety and tension in situations in which the causative stress is temporary, as in the preparation for dental and other minor surgical procedures, and in acute emotional problems. It has also been recommended for the management of anxiety associated with organic disturbances such as certain types of heart disease, digestive disorders, dermatoses, senility, the menopausal syndrome, and behavior problems in brain-damaged or epileptic children.

In addition, it has been recommended as adjunctive therapy in alcoholism, and allergic conditions with strong emotional overlay, as in asthma, chronic urticaria, and pruritus.

Hydroxyzine has also demonstrated effectiveness in controlling nausea and vomiting associated with gastritis, gastroenteritis and enteritis; upper respiratory infections, influenza and pneumonia; postoperative conditions; miscellaneous diseases such as Ménière's syndrome, migraine, and vestibulitis.

Hydroxyzine for intramuscular use is especially useful in treating the acutely disturbed or hysterical patient and the acute or chronic alcoholic patient with anxiety withdrawal symptoms or delirium tremens. Used adjunctively pre- and postoperatively and pre- and postpartum, hydroxyzine allays anxiety, permits substantial reduction in narcotic dosage and controls emesis.

Clinical use of hydroxyzine as an adjunct to the management of labor has been extensively reported in the literature without evidence of harm to the mother or fetus.

Contraindications: Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate to establish safety in early pregnancy. Until such data are available, hydroxyzine is contraindicated in early pregnancy.

Hydroxyzine is contraindicated in any individual who has shown a previous hypersensitivity to it. The parenteral solution is intended only for intramuscular or intravenous administration and should not, under any circumstances, be injected subcutaneously or intra-arterially.

Precautions: Drowsiness may occur with oral or parenteral use of this drug, and patients should therefore be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Since hydroxyzine may potentiate the action of central nervous system depressants, conjunctive use with these drugs requires that their dosage be decreased. Hydroxyzine reduces the requirements by as much as 50% for narcotics such as meperidine, so their use in preanesthetic adjunctive therapy should be modified on an individual basis.

As with any preparation for intramuscular injection, Vistaril (hydroxyzine hydrochloride) Parenteral Solution should be injected well within the body of a relatively large muscle such as in the upper outer quadrant of the buttock or the lateral thigh. To avoid the possibility of radial nerve injury, injections should not be made into the lower and middle thirds of the upper arm. Aspiration and proper anatomical selection of injection site should be observed as a precaution against inadvertent injection into a blood vessel or major nerve. In a few instances of reported intravenous administration of hydroxyzine hydrochloride, digital gangrene has occurred distal to the injection site, apparently the result of endarteritis and thrombosis. This event has been considered due to inadvertent intra-arterial injection, although the possibility of periarterial extravasation, with arterial spasm, cannot be ruled out. Therefore, particular caution should be observed when hydroxyzine parenteral solution is administered intravenously to insure that it is injected only into intact veins; avoid either intra-arterial injection or extravasation. Due to infrequent phlebitis resulting from too rapid intravenous administration of the solution, the rate of injection should not exceed 25 mg. per minute. A single intravenous administration in excess of 100 mg. is not recommended (see Adverse Reactions).

Adverse Reactions: No serious side effects have been reported and confirmed in the administration of hydroxyzine to date. While therapeutic doses of hydroxyzine seldom produce impairment of mental alertness, transient drowsiness may occur; this may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may be seen with higher doses. Involuntary motor activity, including rare instances of tremor and convulsions, has been reported, usually with doses considerably higher than those recommended. Extensive clinical use has substantiated the absence of toxic effects on the bone marrow or liver when hydroxyzine was administered in recommended doses for over four years of uninterrupted therapy.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2-3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. (In the course of normal red cell destruction in the body, approximately 8 Gm. of hemoglobin are liberated every 24 hours.) Therefore, it is recommended that, when given intravenously, parenteral hy-

(Continued on succeeding page.)

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HYDROXYZINE PAMOATE

(Continued from preceding page.)

droxyzine be diluted with 50 cc. of normal saline and given during a period of four minutes or more; with this technique, drug-induced hemolysis is unlikely.

Dosage: *Oral*—Adults: Dosage varies with individual requirements and ranges from 25 mg. t.i.d. to 100 mg. q.i.d.

Children: *under 6 years*, 50 mg. daily in divided doses; *over 6 years*, 50-100 mg. daily in divided doses.

Parenteral—For adult psychiatric and emotional emergencies, including acute alcoholism—I.M.: 50-100 mg. Stat., and q. 4-6 h., p.r.n.; I.V.: 50 mg. Stat., maintain with 25-50 mg. I.V. q. 4-6 h., p.r.n.

Nausea and vomiting—Adults: 25-100 mg. I.M. or I.V.; Children: 0.5 mg./lb. body weight I.M.

Pre- and postoperative adjunctive medication—Adults: 25-100 mg. I.M. or I.V.; Children: 0.5 mg./lb. body weight I.M.

Pre- and postpartum adjunctive therapy—25-100 mg. I.M. or I.V.

Patients may be started on parenteral therapy when indicated by the clinical situation. They should be maintained on oral therapy whenever this route is again practicable.

As with all potent medications, the dosage should be adjusted according to the patient's response to therapy.

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Composition (Parenteral Solution)

Each cc. contains:	25 mg./cc.	50 mg./cc.
Hydroxyzine		
hydrochloride	25 mg.	50 mg.
Benzyl alcohol	0.9%	0.9%
Sodium hydroxide		
(approx.) to adjust		
to optimum pH	0.22%	0.46%
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April 3-7: Annual Spring Congress in Ophthalmology, Otolaryngology and Allied Specialties, Gill Memorial Eye, Ear and Throat Hospital, Hotel Roanoke and Motor Inn, Roanoke. Address: Superintendent, Box 1789, Roanoke, Va. 24008.

April 8-12: American Society of Abdominal Surgeons. Sheraton Park Hotel, Washington. Address: Dr. Blaise F. Alfano, Executive Secretary, 675 Main Street, Melrose, Mass. 02176.

April 9-13: American Urological Association (Southeastern Regional). Hollywood Beach Hotel, Hollywood, Fla. Address: Mr. William P. Didusch, Executive Secretary, 1120 North Charles Street, Baltimore, Md. 21201.

April 10-13: Aerospace Medical Association. The Washington Hilton Hotel, Washington. Address: Dr. William J. Kennard, Executive Secretary, Washington National Airport, Washington, D. C. 20001.

April 17-19: American Association for Thoracic Surgery. Americana Hotel, New York. Address: Miss Ada Hanvey, Administrative Assistant, 311 Carondelet Bldg. West, 7730 Carondelet Avenue, St. Louis, Mo. 63105.

April 17-20: American College of Obstetricians and Gynecologists, Fifteenth Annual Clinical Meeting. Washington Hilton Hotel, Washington. Address: Dr. Harold A. Kaminetsky, Secretary, 79 West Monroe Street, Chicago, Ill. 60603.

April 24-26: National Congress on Environmental Health Management. Hotel Americana, New York. Address: Department of Environmental Health, American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610.

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April 30: American Federation for Clinical Research. Chalfonte-Haddon Hall, Atlantic City, N. J. Address: Mr. James E. Bryan, Executive Secretary, 2000 P Street, N.W., Washington, D. C. 20036.

April 30-May 3: American Society for Clinical Investigation. Chalfonte-Haddon Hall, Atlantic City, N. J. Address: Dr. Grant W. Liddle, Secretary-Treasurer, Vanderbilt University School of Medicine, Nashville, Tenn. 37203.

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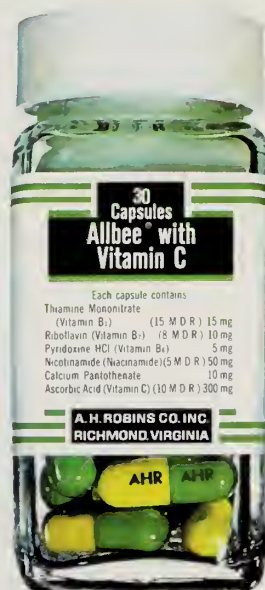
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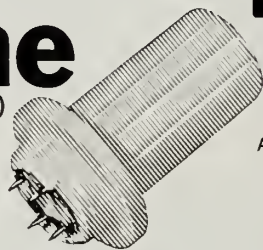
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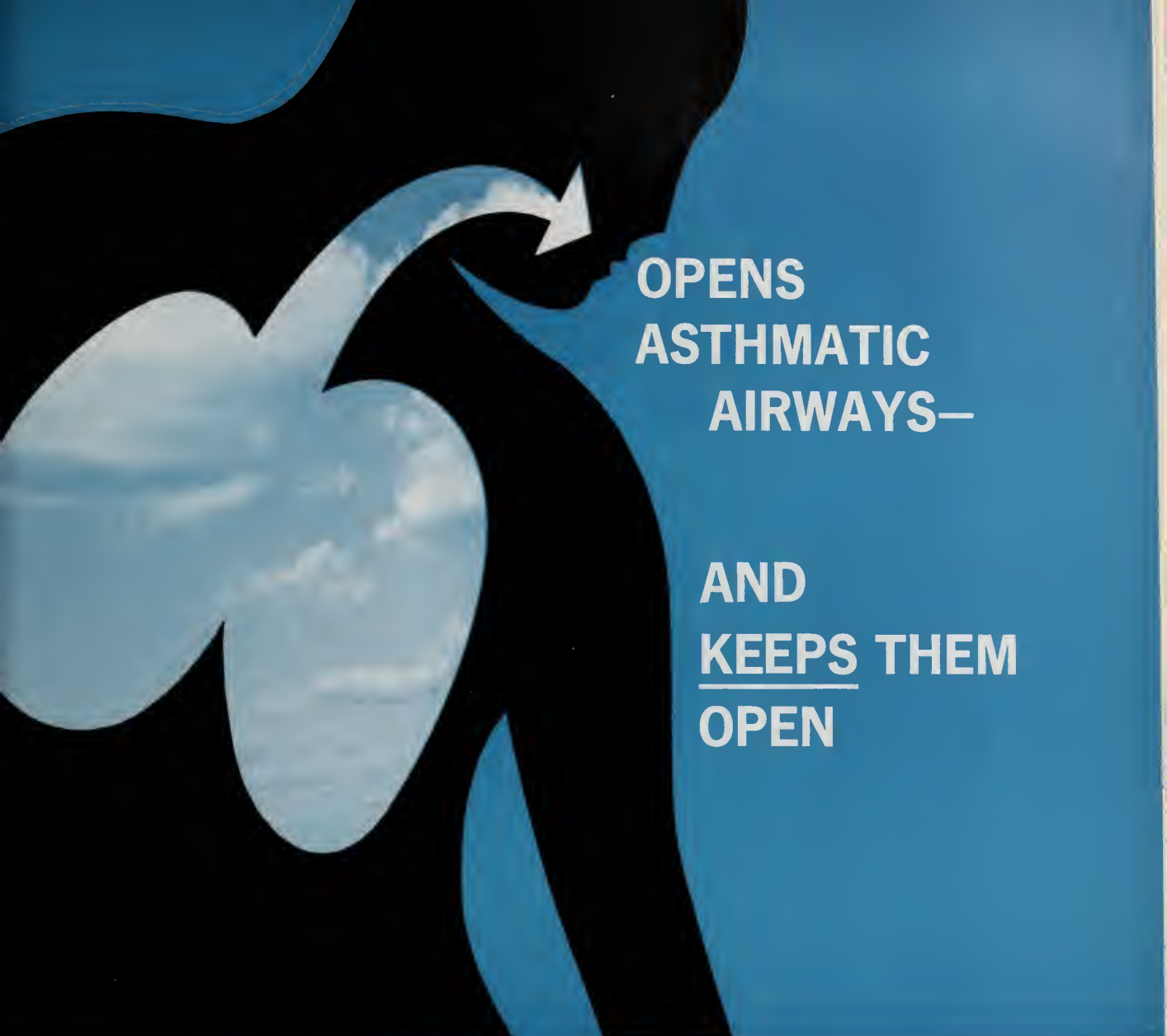


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A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

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Brief
Summary
on next
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Brief Summary

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Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

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oxyphenbutazone

Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.



Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic
joints move again



Please see ad-
joining page for
brief prescribing
summary

TA-4919 PC

Sperling, I. L.: 3 Years' Experience
with Oxyphenbutazone in the
Treatment of Rheumatic Disorders,
Applied Therapeutics 6:117, 1964.

Watts, T. W., Jr.: Treatment of Rheu-
matoid Disorders with Oxyphenbu-
tazone, Clin. Med. 73:65, 1966.

3 out of 4 osteoarthritics com-
pletely or markedly improved

76.9% of 407 patients

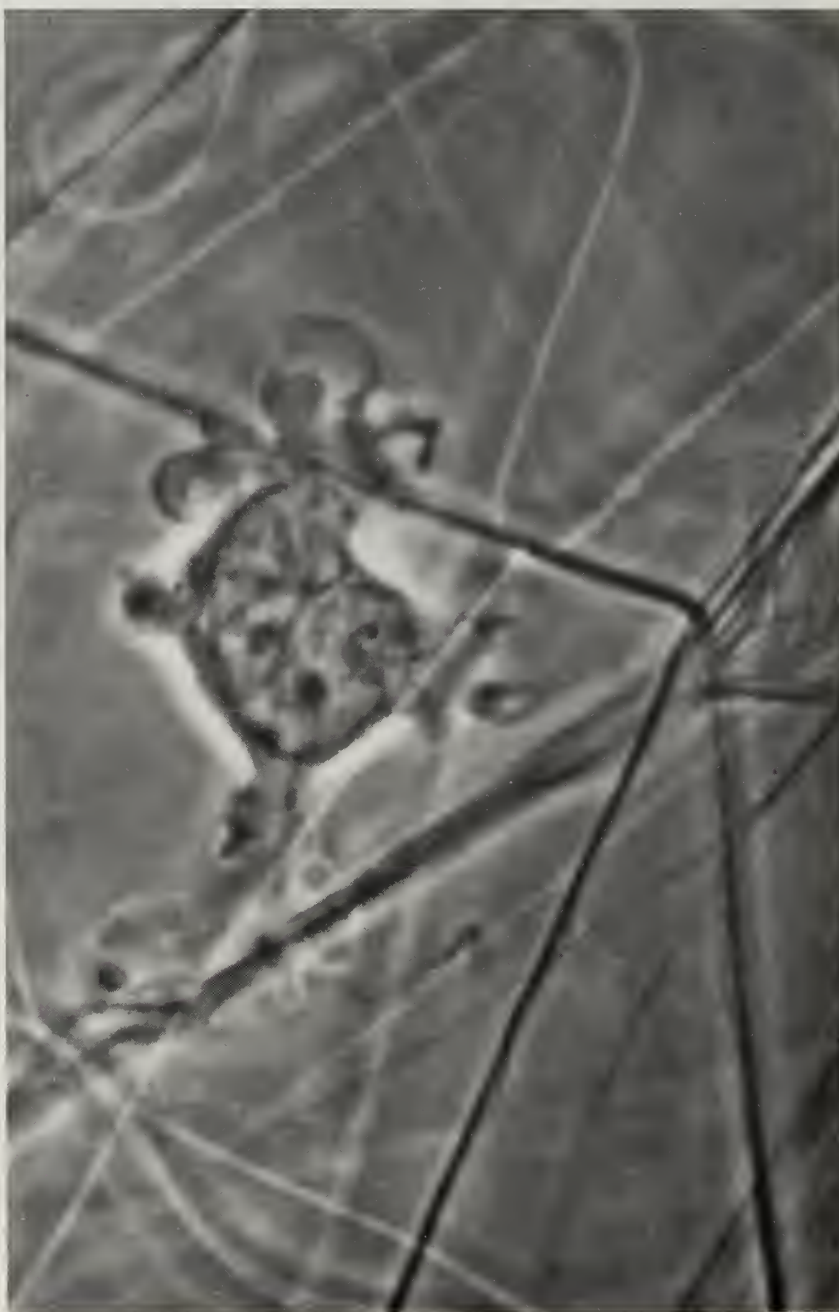
84.6% of 39 patients

INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

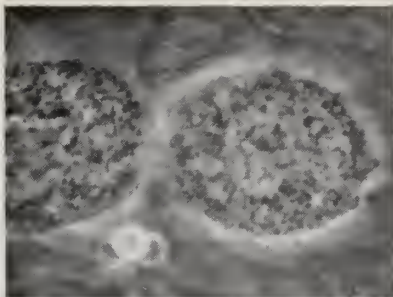


Visual evidence of how corticosteroids influence the inflammatory reaction

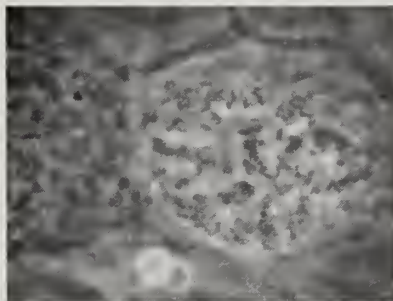
Working with phase-contrast cine-micrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



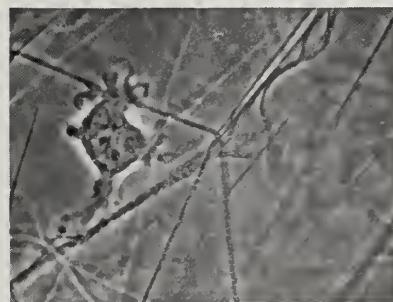
Phase-contrast microscopy showing mast cell before injury.



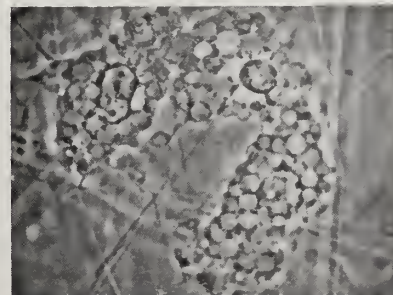
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

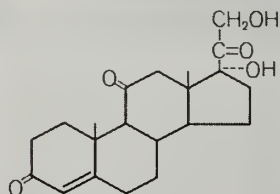


In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

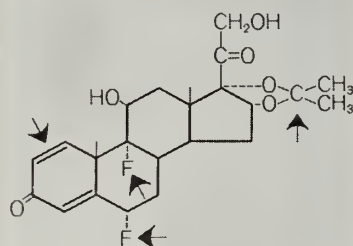
*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



Hydrocortisone

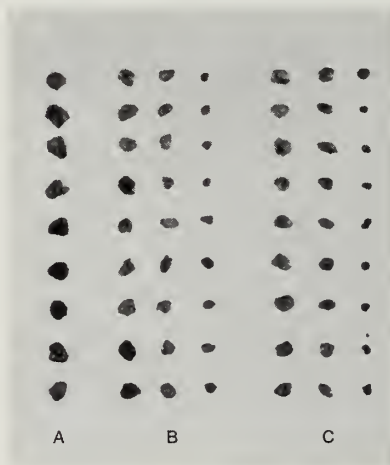


Fluocinolone Acetonide (Synalar)

- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- α and the 9- α positions
- ☐ the addition of the acetonide at the 16- α , 17- α positions, thus providing one of the most potent topical corticosteroids available.

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY¹⁻⁴ is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B—injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY¹⁻⁴ also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes. **CONTRAINDICATIONS:** Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

Representative Clinical Results with Synalar*			
Efficacy Documented in over 4,000 Patients			
Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964, vol. III, pp. 234-280. 4. Gubersky, V. R.: To be published.

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For inflammatory
dermatoses...
by any measure
a topical corticosteroid
of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram
one of the most active topical
corticosteroids available

Rapid and predictable
in antiinflammatory and
antipruritic activity

Results often comparable to
those of systemic corticosteroids
with fewer hazards

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new from Ames 5 basic uro-analytical facts in 30 seconds

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...broadest urine screening possible from a single reagent strip

Urine test results with LABSTIX Reagent Strips can represent significant guides to differential diagnosis or therapy in many conditions. An unexpected "positive" may enable you to detect hidden pathology—long before more recognizable symptoms become evident. Negative results, which permit you to rule out abnormalities in a broad clinical range, can serve as baseline values for reference in future examinations. The 5 colorimetric test areas encompassed on LABSTIX Reagent Strips are:

pH—values are read numerically in the essential range of pH 5 to pH 9.

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Glucose—provides a "Yes-or-No" answer for urine "sugar spill."

Ketones—detects ketone bodies in urine—both acetoacetic acid and acetone. Reacts with as little as 5 to 10 mg. % of acetoacetic acid.

Occult Blood—specific test for intact red cells, hemoglobin or myoglobin. Results are read as negative, small, moderate or large amounts.

Now a Clear Reagent Strip of Firm Construction

...facilitates handling during testing procedure. Excellent color contrast made possible by the clear plastic strip, together with the clearly defined color charts provided, permits precise, reproducible colorimetric readings in all 5 test areas. A more definitive interpretation of uro-analytical facts is made possible.

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AS THE
NOSE ON HIS
FACE.



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Dimetapp® Extentabs®

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

In sinusitis, colds, or U.R.I., Dimetapp lets congested patients breathe easy again. Each Extentab brings welcome relief all day or all night, usually without drowsiness or overstimulation. Its key to success? The Dimetapp formula—Dimetane (brompheniramine maleate), a potent antihistamine reported in one study to have elicited side effects as few as the placebo,* teamed with decongestants phenylephrine and phenylpropanolamine—in a dependable 10- to 12-hour form.

Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on

rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

Dosage: 1 Extentab morning and evening, or as needed.

Supplied: Bottles of 100 and 500.

Also available: Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

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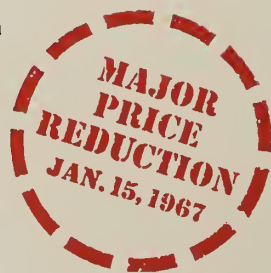
When you prescribe tetracycline, write ACHROMYCIN V. It's good policy, good medicine and good economy, all in one prescription. LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York.

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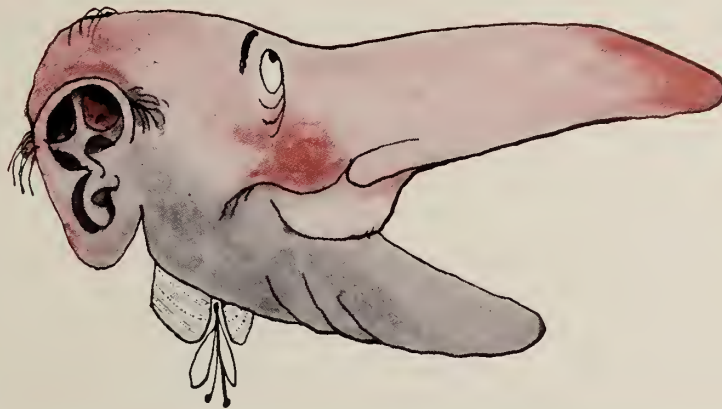


The Proof of Excellence is in the Performance



for noses of every description,
one safe and sure prescription:

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(xylometazoline CIBA)
on Rx only



- quickly relieves congested nose
- action is gentle, yet prolonged
- side effects are minimal

INDICATION: Nasal congestion. **CONTRAINDICATION:** Do not use in patients sensitive to small doses of sympathomimetic substances. **WARNINGS:** Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. **CAUTION:** Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.

SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. **DOSAGE: Adults:** Nasal Solution—2 or 3 drops in each nostril every 4 to 6 hours. Nasal Spray—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** Pediatric Nasal Solution—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used

in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. **SUPPLIED:** OTRIVIN[®] hydrochloride (xylometazoline hydrochloride CIBA) Nasal Solution, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. Nasal Spray, 0.1%; plastic squeeze tubes of 15 ml. Pediatric Nasal Solution, 0.05%; dropper bottles of 1 fluidounce. Pediatric Nasal Spray, 0.05%; plastic squeeze tubes of 15 ml. Nasal Solutions contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. Nasal Sprays contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. Consult complete literature before prescribing.
CIBA Pharmaceutical Company, Summit, N. J.

C I B A



Do your patients
shell out too much
for a diuretic?

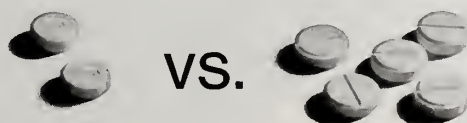
The answer may be yes...if they're not on Hygroton. For instance, a therapeutic dose of a short-acting diuretic may cost 3 times as much as an equivalent dose of Hygroton. With Hygroton, in fact, you can usually do the job with just one tablet a day or one every other day. It's no wonder that the trend has been away from short-acting, multiple-dose, high-cost diuretics.

You may hear that a short-acting diuretic was more effective in a 400 mg. (ten-tablet) dose than Hygroton in a 200 mg. (two-tablet) dose.

If one considers maximum recommended doses for each product, tablet for tablet Hygroton was clearly superior. Two tablets of Hygroton were found to produce almost 40% more natruresis and 20% more weight loss than five tablets of the other diuretic.* Note that these are maximum recommended doses!

For effectiveness, economy, and convenience, therefore, Hygroton is the diuretic to choose to start with and the one to stay with.

*Brest, A. N., et al.: J. New Drugs 5:329, 1965.



Natruresis above control values after maximum recommended doses (mEq./24 hours) in "normal" patients

111
5 tablets short-acting
nonthiazide diuretic

152
2 tablets
Hygroton

48-hour weight loss after maximum recommended doses in edematous patients with congestive heart failure due to arteriosclerotic or rheumatic heart disease

1.84 lbs.
5 tablets short-acting
nonthiazide diuretic

2.2 lbs.
2 tablets
Hygroton

Indications: Hypertension and many types of edema involving retention of salt and water.

Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.

Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.

Precautions: Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH,

or digitalis. Salt restriction is not recommended.

Side Effects: Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration.

Average Dosage: One tablet (100 mg.) with breakfast daily or every other day.

Availability: Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

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600811

Intrapericardial Synchronous Pacemaker Lead^{*†}

NICHOLAS P. D. SMYTH, M.D., F.A.C.S.‡, ERWIN F. HIRSCH, M.D.§, IRA N. BRECHER, M.D.||, AND
RODOLFO J. BETANCOURT, M.D.||

THERE IS INCREASING INTEREST in the development of implantable pacemakers that do not require thoracotomy for insertion. The transvenous endocardial system has made this possible for the asynchronous and stand-by pacemakers,^{1, 2, 3} but no reliable system exists for the establishment of synchronous pacemaking without thoracotomy.^{4, 5} This study is concerned with the development of an intrapericardial onlay synchronous pacemaker lead that could be implanted without thoracotomy.

Methods

Helical coil leads of Elgiloy coated with Silastic were developed in which a standard atrial electrode¶ and 2 dissimilar ventricular electrodes were incorporated in a flat strap-like Silastic lead. The relative merits of flush versus elevated, short (2 mm.) versus long (4 mm.), and closed-coil versus open-coil electrodes were studied (figure 1).

Studies in the cadaver showed that the sub-xiphoid transpericardial route provided ready access to the back of the left atrium and the diaphragmatic surface of the right ventricle without thoracotomy. The cul-de-sac of the oblique sinus of the pericardium seemed likely to provide

a stable location for the lead tip without fixation (figure 2).

Anatomic differences precluded the use of this simple approach in the dog. In order to study the efficacy of such an onlay epicardial electrode system the leads were placed at left thoracotomy in the pericardial sac in contact with the left atrium and right ventricle in 20 dogs. Fixation was achieved by suture of the lead to the pericardium but not to the heart.



FIG. 1. Atrial electrode consisting of 2 elevated wire coils is near the tip of the lead. Contrasting pairs of ventricular electrodes are below. They are (from left to right): elevated, flush, long (4 mm.), short (2 mm.), open coil and closed coil. All elevated electrodes are 1.5 mm. above the lead surface.

The strength of the atrial signal and the ventricular stimulating thresholds for unipolar asynchronous and synchronous pacing were determined at the time of insertion and at intervals up to 8 months postoperatively.

Electrode position was checked periodically roentgenographically and at autopsy.

In 10 dogs, either before or after insertion of the lead, heart block was produced by a modification of a previously described method,⁶ in which the

* From the Surgical Research Laboratory, George C. Hyman Research Building, Department of Surgery, Washington Hospital Center, and the George Washington University School of Medicine.

† Supported in part by the Surgical Research Fund of the Women's Auxiliary of the Washington Hospital Center.

‡ Chairman, Department of Surgery, Washington Hospital Center, 110 Irving Street, N.W., Washington, D.C. 20010; Associate Professor of Surgery, George Washington University School of Medicine.

§ Fellow in Surgical Research, Washington Hospital Center.

|| Resident in General Surgery, Washington Hospital Center.

¶ Produced by Cordis Corporation, Miami, Fla.

A-V node was destroyed by electrocoagulation. In 5 of these dogs the lead was connected to a synchronous pulse generator placed subcutaneously in the left upper quadrant of the abdomen, and synchronous pacing was established.

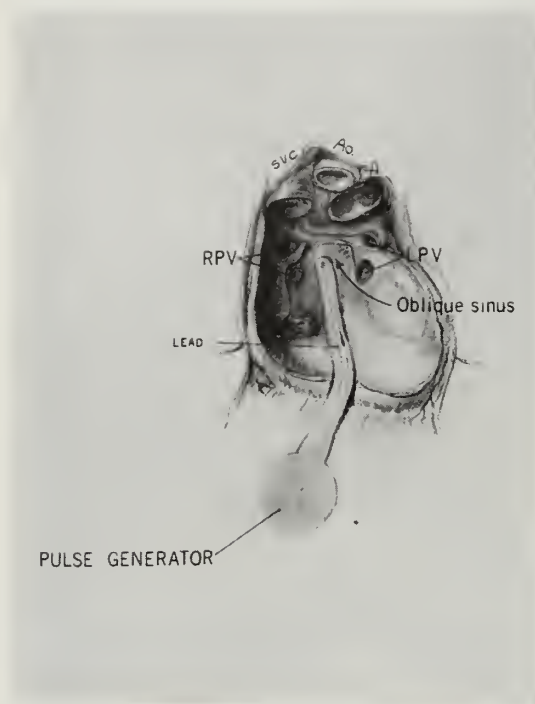


FIG. 2. Pericardial sac with heart removed. Proposed location of lead and synchronous pulse generator are shown.

Results

Atrial signal ("P" wave) strengths of 3 to 7 millivolts were recorded initially. Subsequent measurements showed a decline in 2 to 4 months to values of 1 to 4 millivolts. Little change occurred subsequently, and at 8 months values of 1.3 to 4.5 millivolts were recorded (figure 3).

The elevated, long (4 mm.), open coil electrode was found to be the best, and the ventricular stimulating thresholds obtained with this electrode are shown in figure 4.

Initial thresholds ranging from 0.8 to 2.5 milliamperes were obtained. These values all rose in the next 2 to 4 months. In the next 4 months, with 1 exception, the values showed a slight fall. Final values at 7 to 8 months were in the range of 2.0 to 3.0 milliamperes.

The mortality, both operative and postoperative, from heart block was 50 per cent.

The implanted pulse generators placed in the 5 survivors were not well tolerated by the dogs. Synchronous pacing for 2 months and 4 months

was the longest achieved in 2 animals. Dislodgement of the lead or extrusion of the entire system as a result of erosion of the overlying skin from scratching or abrasion on the floor of the dog run was a major problem. The use of binders or dressings did not prevent this.

Complete autopsy studies were made on 22 dogs that were sacrificed or died. Eight are still living. In animals with very low atrial signal strength and very high ventricular thresholds the cause was found to be anatomic dislodgement of the electrodes, sepsis, or excessive fibrosis.

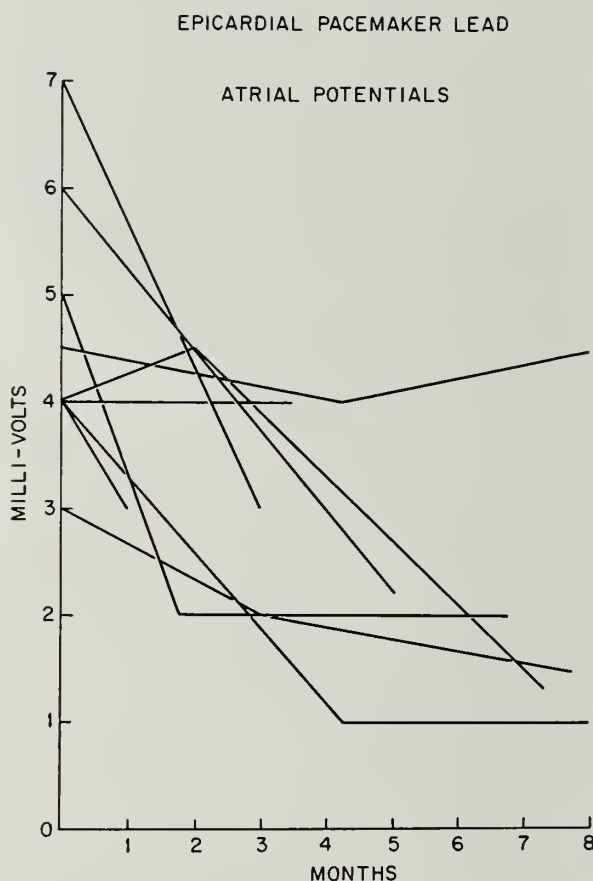


FIG. 3. Atrial potentials recorded in millivolts at the time of insertion and periodically up to 8 months postoperatively.

Discussion

Some of the threshold values obtained with these epicardial electrodes are higher than clinically acceptable values for myocardial or endocardial electrodes, and there are several reasons for this. The values were recorded in "unblocked" dogs. In the presence of heart block much lower thresholds are found.⁷ In one of our animals thresholds of 2.0 and 1.0 milliamperes were recorded before and after block respectively. In

addition, loss of contact with the ventricle, sepsis, and excessive fibrosis all occurred and were associated with the very high thresholds. Some fibro-

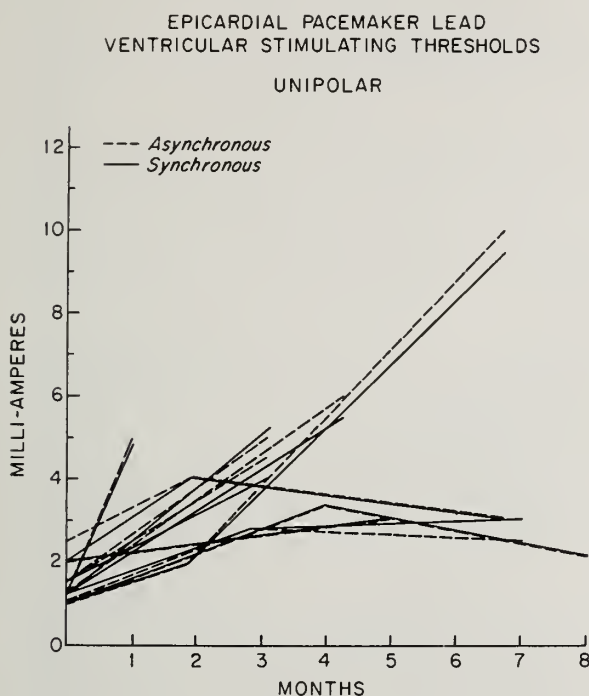


FIG. 4. Ventricular stimulating thresholds recorded in milliamperes at the time of insertion and periodically up to 8 months postoperatively.

sis occurred in all animals and was acceptable if just enough to encase the lead in a sleeve that secured it in place. Careful washing and avoidance of lint or powder on the lead minimized this scarring.

The results show the feasibility of the system, and we believe that further study and early clinical trial are indicated.*

Summary

An epicardial synchronous pacemaker lead has been developed that should permit permanent synchronous pacemaking without thoracotomy. Studies in the dog have shown the superiority of a large (4 mm.) "open" coil ventricular electrode. Satisfactory atrial potentials and ventricular stimulating thresholds were obtained for up to 8 months in the dog.

We acknowledge with thanks the assistance of Dr. James Bacos of the Department of Medicine and Mr. Michael Boivin and Mr. Frank Garber, Medical and Surgical Technologists.

* The system has been recently used in 1 patient. The results will be reported separately at a later date.

References

1. CHARDACK, W. M., AND OTHERS: Five years' clinical experience with an implantable pacemaker: an appraisal. *Surgery*, 1965, **58**, 915.
2. SMYTH, N. P. D.: Technique for insertion of transvenous endocardial pacemaker. *J. Thorac. Cardio. Surg.*, 1966, **51**, 755.
3. PARSONNET, V., ZUCKER, I. R., GILBERT, L., AND MYERS, G. H.: Clinical use of an implantable standby pacemaker. *J.A.M.A.*, 1966, **196**, 784.
4. SYKOSCH, J.: Paper presented before the Graduate Symposium on Electrical Control of Cardiac Activity in Buffalo, N. Y., May, 1965.
5. JOHANSSON, L.: *Ibid.*
6. STARZL, T. E., GAERTNER, R. A., AND WEBB, R. C., JR.: Effects of repetitive electric cardiac stimulation in dogs with normal hearts, complete heart block and experimental cardiac arrest. *Circulation*, 1955, **11**, 952.
7. CHARDACK, W. M., GAGE, A. A., AND GREATBATCH, W.: Transistorized, self-contained, implantable pacemaker for long-term correction of complete heart block. *Surgery*, 1960, **48**, 643.

Report on Diabetes Detection Week

DURING LAST NOVEMBER AND DECEMBER the Diabetes Association of the District of Columbia conducted its largest and most effective annual campaign in an effort to find as many as possible of the variously estimated 15,000 to 20,000 latent and unknown diabetics in the Washington Metropolitan Area. Mr Thomas W. Wilson, attorney and Chairman of the Lay Society of the Association, directed the D. C. campaign. Diabetes Detection Week was observed nationally, and it was proclaimed locally by the Commissioners of the District of Columbia.

The Association made known the basic facts about diabetes by means of radio, television and the press. During Diabetes Detection Week over 100,000 urine test kits were distributed through the 85 Drug Fair stores, the D. C. Police and Fire Stations, and Public Libraries. The Equitable Life Insurance Company, the National Geographic Society, Woodward and Lothrop, and *The Washington Post* actively supported the campaign among their employees. Thus far over 11,000 specimens have been examined and positive tests from 221 persons not known to have diabetes have been obtained. When the name of the positive testee's physician was known, he was notified.

In addition to assisting in the annual Diabetes Detection campaign, the Diabetes Association of the District of Columbia conducts regular meetings for diabetics and actively supports the Diabetic Camp for Children operated by the Maryland Diabetes Association.

Trends in Research in Vascular Disease^{*†}

TAGE ASTRUP, D.PH. (COPENHAGEN)[‡]

OVER THE PAST GENERATION mankind has witnessed a victory in its fight against deadly disease as never before. Increased efforts in hygiene had led to a decline in many of the communicable diseases. The final conquest came through the development of the sulfa drugs in the thirties and of penicillin and other antibiotics during the forties. Progress in vaccination has decreased the number of those attacked by some virus diseases, such as poliomyelitis.

Although millions of people are still suffering from malaria, yellow fever, cholera, and other tropical diseases, this is not because we do not know how to eradicate these diseases but because political and economic problems are preventing the use of our knowledge to its full extent. For similar reasons millions of people are suffering from malnutrition and lack of vitamins. We must admit that our success in combating diseases which formerly killed people in their younger years of life has aggravated the situation by inducing a "population explosion."

A group of disorders for which the distribution in the population has completely changed comprises disorders which for various reasons are termed the "degenerative diseases" or the "aging diseases." These disorders attack the vessels and the heart, and they include the rheumatoid diseases. Mostly, they are of a chronic nature and are more prevalent in older age than in the young age. It is understandable that they were of secondary importance as long as the death rate caused by the acute infectious diseases remained high. Not only has the pattern of distribution of diseases changed, but more people than before are suffering from them for the simple reason that more people are surviving for longer periods of time because of our conquest of the

communicable diseases. The average life span of man has increased tremendously over the whole of this century. The size of this disease problem and of its social impact and economic consequences is apparent from the few figures which follow.

Deaths in the United States per year* from:

Cancer	255,000
Cardiovascular-renal disease	900,000
Disabled people:	
Mental and emotional disorders	16,000,000
Cardiovascular disease	16,000,000
Arthritis	11,000,000
Latter 2 groups combined	27,000,000

* From "Federal Support of Medical Research." A report of the Committee of Consultants on Medical Research to the Subcommittee on Departments of Labor and Health, Education, and Welfare of the Committee on Appropriations, United States Senate, 86th Congress, May 1960.

The tremendous importance of the problem is apparent, especially from the number of disabled persons. These amount to a total of 27 million in the combined groups of diseases with which we are dealing here. One need not imagine the suffering behind these figures in order to visualize the relief which would ensue if research in this field would be as successful as that which led to the conquest of the communicable diseases.

Common to the degenerative diseases are certain tissue responses which more or less follow a similar pattern in different organs of the body. Some common denominators seem to be responsible for the development of the pathologic lesions. It is about the nature of these denominators and their respective significance in the various types of disorder that scientists disagree. All of these disorders are related to connective tissue structures in the body. Experimentally, similar pathologic changes can be produced in animals, but there is little agreement as to the causes of these diseases.

Vascular diseases present a multifaceted pattern. They are related to the narrowing and hardening of vessels, occlusion of vessels by clotted blood, deposition of lipids in the vessel wall, increase in blood pressure, calcification,

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aneurysm formation, hemorrhage following dissection, and ischemic processes caused by delay in blood flow. Ultimately these pathologic changes lead to organ destruction and death. The ambiguity of cause and effect in arterial disease was discussed by Jean Cruveilhier in Paris as early as 1852. It is quite possible that the interrelation between cause and effect is of a dual nature. Thus, hypertension produced in one way or the other could lead to arterial disease which in turn could enhance hypertension. It is easy to envisage how such disorders could from slight early beginnings take a rapidly progressing course as a kind of self-enhancing process.

The first to offer a rational explanation of the pathogenesis of arterial disease was Karl Rokitansky¹ in 1844 in Vienna. His concept postulates an interaction between blood components and the tissues of the vessel wall producing a deposition of fibrinous material on the interior wall. It constitutes the origin of the concept which is now called the "thrombogenic theory," to which I shall return later.

However, most of the theories which have received serious consideration date back to ideas advanced by Rudolf Virchow² about 1856 in Berlin. Virchow, who introduced the cellular concept in pathology, developed his ideas on the basis of a cellular response assuming that compounds from the arterial blood could enter the vessel wall, produce an inflammatory response with hyperplasia, and lead to fatty infiltration and degeneration. Virchow soon tended to consider the intimal proliferation and the degenerative processes to be the most important. Ideas based on cellular proliferation suited his biological concepts better than any explanations involving a humoral mechanism, and he heavily attacked Rokitansky. One of his main arguments was the observation that the arterial lesions were found underneath the endothelial cell lining. For this reason Virchow could not accept the lesions to be a result of the deposition of products from the blood on the luminal surface of the vessel. He did not realize that endothelial cells are highly mobile and may soon cover an intimal injury. Another argument used to explain the prevalence of thrombi in the arterial system was his belief that coagulation of blood is caused by exposure to oxygen.

The filtration theory gained support when the Russian investigator Anitschkow³ in 1913 produced atheromatous lesions in rabbits by feeding them with cholesterol. Since then a tremendous effort has been made to try to correlate the occur-

rence of arterial lesions with properties of the circulating blood, in particular in relation to its content of cholesterol and lipid components, including lipoproteins.

Two questions remain unanswered by the infiltration theory:

1. Why is there no absolute correlation between the occurrence of arterial lesions and hyperlipemia? Some forms of hyperlipemia are reportedly not associated with an enhanced tendency to produce atherosclerosis, and in some individuals atherosclerosis develops on a lipid-poor diet.

2. If changes in the composition of blood are the cause of atherosclerosis, how then is the discrete localization of early atherosclerotic lesions explained? Why are they not evenly distributed throughout the arterial tree?

It is often forgotten that Anitschkow already was aware of these problems and that he warned against making the mistake of assuming hypercholesterolemia to be a sole etiologic factor in the pathogenesis of atherosclerosis. He wrote: "All pertinent observations . . . point to the probability that several factors contribute to the genesis of atherosclerosis . . . factors both of a general and of a local nature."⁴ He added that "lesions of the arterial wall which are associated with hyperplasia of the intima create a local predisposition to the formation of lipoidal deposits, that is, to the development of atherosclerosis, provided that they are synchronous with hypercholesterolemia." Though he agreed that his ideas are related to the infiltration theory, he called his own concept the "combination theory" in order to include the role of local factors.

Modified forms of the infiltration theory have been postulated in an attempt to overcome some of the difficulties by relating the lesions to the effects of other components in the blood or to a combination of such, e.g., to the presence of macromolecules containing carbohydrates and proteins.⁵ However, any infiltration theory which is based solely on the effects of a plasmatic influence fails to explain the topographic distribution of the lesions as well as how infiltration could proceed through an existing deposit, or why there is a low content of lipids in lesions of the fibrous type. Morgan,⁶ in particular, has discussed these arguments in his review of the thrombogenic hypothesis. The revival of the "thrombogenic theory" is chiefly due to the work of Duguid,^{7, 8, 9} who reached his conclusions from the histologic study of sections of arteries with recanalizing thrombi, which he found merged into typical atheromatous lesions as well as into

plain intimal thickenings. In view of the criticism to which the thrombogenic theory has been exposed, it is worth recalling that several other investigators have presented observations and drawn conclusions similar to those of Duguid. Winternitz¹⁰ wrote in 1938, "Many sections of organized thrombus can be distinguished with difficulty, if at all, from vascular thickened intima." Mallory,¹¹ Clark et al,¹² Apitz,¹³ and Meessen,¹⁴ among others, have suggested the incorporation of fibrin deposits in the vessel wall.

Duguid drew attention to the fact that the mobility of the endothelial cells, which allows a rapid overgrowth of an intimal lesion, has been overlooked by most earlier investigators, and that through this mechanism the layer formation in atheromatous lesions, which escapes explanation by the filtration theory, can easily be understood in the thrombogenic theory.

A concept of the pathogenesis of arteriosclerosis can be derived from considerations on normal tissue repair processes (Astrup^{15, 16, 17}). It is based on the role of fibrin deposition in tissue repair and the necessity of its subsequent disposal in order to reestablish normal conditions. Applied to lesions on the arterial wall the concept leads to a theory for the pathogenesis of arteriosclerosis which is fundamentally the same as the thrombogenic theory. Its broader physiologic background and independent development make it a major supporting evidence of the soundness of the thrombogenic theory. The concept is based on ideas originally suggested by Leo Loeb^{18, 19, 20} concerning the role of blood clotting and fibrinolysis in tissue repair and in the formation of reparative connective tissue. Development and application of Loeb's ideas became possible only after the fibrinolytic system and its local activation in the body had been sufficiently elucidated during the past 20 years.^{21, 22}

The concept that an exudative process serves as the basis for tissue repair and of wound healing is an old one. It is of interest that as early as in 1784 (published 1793) John Hunter²³ presented ideas on the inflammation of the internal coats of veins prior to Rokitsansky's views on lesions in the heart and in arteries. Hunter described the adhesion of the walls of veins following inflammation to the extent of complete obliteration of the vessel, and he remarked, "In all cases of inflammation where adhesions take place they arise from an extravasation of coagulable lymph." Hunter admitted his ignorance about the processes causing adhesion, but he concluded that "since such adhesions do in fact happen, the coagulable

lymph must undergo some change connected with the disposition which produces its extravasation."

Rokitansky¹ postulated the production of a fibrinous, coagulable exudate and the deposition on vessel walls of fibrinous material separated from the blood. He assumed such deposits to play a role in the healing of inflammatory processes in the vessel wall, though excessive deposition would lead to pathologic processes. In particular, he believed that such deposits occurring on the interior wall of arteries would lead to arteriosclerotic and atheromatous changes.²⁴ He described a scheme of time sequences ranging from the early glossy and translucent lesion, through fibrous or lipid-containing plaques, to the fully developed atheromatous process with calcified areas. He described the development of a thickened fibrous intima and noticed small vessels opening on its surface. He described medial thinning with aneurysm formation, and he assumed healing of such lesions to occur by fibrous tissue originating in fibrinous deposits.

Rokitansky²⁵ also described fibrinous deposits on the endocardium leading to endocardial thickening and organization as well as to calcification of the valves. He reported the lesions to occur most frequently in the left side of the heart. He discussed conditions for coagulation of blood in the living body and mentioned an initiation in one way or the other of fibrin formation in blood and a condition of stasis. Interestingly, with these suggestions he anticipated Virchow's concepts about thrombosis and embolism. A sequence similar to that proposed by Rokitsansky was suggested for the pathogenesis of adult endocardial fibrosis by Penfold²⁶ in 1957 as a further development of the concepts of Duguid. Penfold described his sequence as follows: damage to the endocardium by 1 of many possible factors, deposition of fibrin on the affected areas, and organization of the thrombi followed by incorporation in the endocardium as an apparent fibrosis. Likewise, a sequence explaining the thickening of heart valves and the appearance of organized excrescences proposed by Magarey²⁷ in 1949 is in agreement with the early views of Rokitsansky.

The excrescences studied by Magarey resemble cultures of connective tissue cells *in vitro* on a small thread of fibrin floating in a fluid of nutrients. We are, therefore, back to the concepts expressed by Leo Loeb about the role of fibrin deposition and the proliferation and migration of fibroblasts, producing reparative connective tissue ultimately forming a fibrous scar, as well as to

the role of fibrinolysis in the regulation of these processes.

Twenty years ago it was found by Astrup and Permin²⁸ that the fibrinolytic activity in tissues is caused by an activating agent which converts a precursor in blood (plasminogen) into an active protease (plasmin). With this observation, 2 agents involved in the regulation of local fibrin deposition, viz., tissue thromboplastin and an activator of plasminogen, had been localized and their effects explained as an interaction of cellular elements with the humoral system, validating the views of Rokitsky and Loeb. Development of a method for the quantitative extraction and assay of the tissue activator permitted a systematic study of its concentration in various organs and tissues.²⁹ Little or no fibrinolytic activity was observed in the human arterial intima or media, but high activator concentrations were found in the adventitia.^{30,31} There was high thromboplastin concentration in the intima. It was concluded that this situation would favor formation and retainment of fibrin deposited on an injured luminal surface as part of a repair process. Resolution would depend upon fibrinolytic agents provided from the blood stream. There was high fibrinolytic activity in the intima of systemic veins.³²

Todd,³³ who developed a histochemical fibrin slide method for demonstrating fibrinolytic activity on the cellular level, found venous endothelial cells to be active.³⁴ No fibrinolytic activity could be detected in the intima where a thrombus was attached to the venous wall, but fibrinolytic activity reappeared with recanalization. We³⁵ observed that experimentally produced thrombi in rats were attached to the venous wall at places where fibrinolytic activity was absent and that organization originated from active sites of the interior wall.

Application of a sclerosing agent (sodium morrhuate) destroyed the fibrinolytically active endothelial cells, the thrombus becoming attached in its full length, and organization occurring only from its free ends. The vein walls thus become attached to each other in a manner similar to that already observed by Hunter.²³ It is quite possible that in the inflammatory processes studied by him the fibrinolytically active endothelial lining of the vein was destroyed and resulted in an adhesive reaction. Hence, in such a situation the conditions in a vein approach that existing in arteries.

The differences found between arteries and veins could explain why in arteries deposits of

fibrin tend to remain for prolonged periods so that they become organized and incorporated in the vessel wall. This observation invalidates the argument brought against Duguid's concept that the same type of response should be expected in the veins as in arteries.³⁶ Also, such an argument could be used against any theory assuming an interaction with components in the blood, and it would apply equally well to the filtration theory and its modifications. It is necessary to postulate differences between local factors to describe the difference in behavior of veins and arteries. Supporting the concept that the basic process is one of normal tissue repair, we have observed that fibrinolytically active endothelial cells are brought into an area of tissue repair by the sprouting capillaries. This was observed in the rat after experimentally induced myocardial infarction³⁷ or after the subcutaneous implantation of a homologous plasma clot.^{38,39} It is suggestive of a tissue repair process that the adventitia behind an atheromatous lesion shows increased fibrinolytic activity and reflects an increase in vascularization.⁴⁰

The main argument against the thrombogenic theory has been that it does not provide an explanation of the formation and deposition of lipids in atheromatous lesions. It is still a riddle from where and how these lipids originate. Duguid observed lipid deposition at sites where the fibrin contained erythrocytes, and he assumed it to be a result of "softening" and "fatty degeneration." It has been found that fibrin is present at the very early stage of lipid deposition, which suggests that a minute mural thrombus had been formed and undergone further transformation. Thus, sub-endothelial fibrin deposits have been unequivocally demonstrated.^{41, 42} With the fluorescent-antibody technique, fibrin has been demonstrated in early, superficial fatty streaks and in early fibrous or hyaline plaques.^{43, 44, 45}

In a discussion of the relationship of arterial disease to lipids in blood the effects of lipids could be considered to be of a secondary nature, increasing the frequency of injuries and aggravating the primary lesion. A positive statistical correlation would then ensue which could explain many observations reported and views held without being in contradiction with the thrombogenic theory.

It is generally believed that release of coagulant lipid material from an atheromatous plaque induces thrombosis. Newer investigations have revealed that material from the arteriosclerotic parts of human aorta has lower thromboplastic

activity than material from normal sections.⁴⁰ Apparently, fibrin deposition is a process preferably occurring on an injured intima. This concept is in agreement with some older, mostly overlooked observations.

Rechlinghausen⁴⁶ in 1883 remarked that it is unusual to find thrombi in relation to the atheromatous ulcerations in the aorta or at the calcified areas of arteries. The regular absence of thrombus formation at arteriosclerotic sites was also reported by Eberth and Schimmelbusch⁴⁷ in 1888. Though later opinions were divergent, it is worth recalling that Winternitz,⁴⁸ who was a careful observer, found thrombosis to develop in relation to the normal intima and not on the atherosclerotic wall. He posed the question, "Is it possible that changes in the cellular elements of the atheroma have caused them to lose their coagulation factor, or to have developed agents which inhibit clot formation?"

In finishing this presentation, it is also worth recalling the report in 1911 by Ruffer⁴⁹ of the occurrence of arteriosclerosis in Egyptian mummies 3,000 years old. This is the best illustration of the fact that arterial disease is not at all a modern disease even though it is now more prevalent.

From the data mentioned in the table showing the number of persons disabled by diseases related to the cardiovascular system, it is apparent that it is in the prevention that we see our ultimate goals. So far we know too little to be able to suggest and recommend measures which could be expected to influence and change these figures significantly. The efforts in research presently being made make us hopeful about the final outcome. However, as long as the goal of prevention is not reached, an important task is to try to remedy a pathologic situation by temporary measures.

References

1. ROKITANSKY, K.: *Handbuch der pathologischen Anatomie*. Vienna: Braumüller und Seidel, 1844, 2, 534 ff.
2. VIRCHOW, R.: *Gesammelte Abhandlungen zur Wissenschaftlichen Medicin*. Frankfurt a. Main: Meidinger Sohn and Comp., 1856.
3. ANITSCHKOW, N.: *Beitr. Path. Anat.*, 1913, 56, 379.
4. ANITSCHKOW, N.: Experimental arteriosclerosis in animals, in Cowdry, E. V., editor: *Arteriosclerosis*. New York: Macmillan, 1933, pp. 271-322.
5. HUEPER, W. C.: *Amer. J. Clin. Path.*, 1956, 26, 559.
6. MORGAN, A. D.: *Cardiologia (Basel)*, 1962, 40, 77.
7. DUGUID, J. B.: *J. Path. Bact.*, 1946, 53, 207.
8. DUGUID, J. B.: *Ibid.*, 1948, 60, 57.
9. DUGUID, J. B.: *Lancet*, 1949, 2, 925.
10. WINTERNITZ, M. C., THOMAS, R. M., AND Lecompte, P. M.: *The Biology of Arteriosclerosis*. Springfield, Ill.: Thomas, 1938.
11. MALLORY, F. B.: *Harvey Lect.*, 1913, 8, 150.
12. CLARK, E., GRAEF, I., AND CHASIS, H.: *Arch. Path. (Chicago)*, 1936, 22, 183.
13. APITZ, K.: *Virchow. Arch. Path. Anat.*, 1944, 313, 28.
14. MEESSEN, H.: *Z. Kreislaufforsch.*, 1944, 36, 185.
15. ASTRUP, T.: *Lancet*, 1956, 2, 565.
16. ASTRUP, T.: Role of blood coagulation and fibrinolysis in the pathogenesis of arteriosclerosis, in Page, I. H.: *Connective Tissue, Thrombosis, and Atherosclerosis*. New York: Academic Press, 1959, pp. 223-237.
17. ASTRUP, T.: *Minnesota Med.*, 1964, 47, 373.
18. LOEB, L.: *Montreal Med. J.*, 1903, 32, 507.
19. LOEB, L.: *Virchow. Arch. Path. Anat.*, 1904, 176, 10.
20. FLEISHER, M. S., AND LOEB, L.: *J. Biol. Chem.*, 1915, 21, 477.
21. ASTRUP, T.: *Blood*, 1956, 11, 781.
22. ASTRUP, T.: *Fed. Proc. (Review)*, 1966, 25, 42.
23. HUNTER, J.: Observations on inflammation of internal coats of veins, in *Trans. Soc. for Improvement of Medical and Chirurgical Knowledge*. London, 1793, pp. 18-29.
24. ROKITANSKY, K.: *Über einige der wichtigsten Krankheiten der Arterien*. Wien: K. K. Hof- und Staatsdruckerei, 1852.
25. ROKITANSKY, K.: *Med. Jahrb. d. k. k. österr. Staates*, Wien, 1841, 24, 53.
26. PENFOLD, J. B.: *Lancet*, 1957, 2, 456.
27. MAGAREY, F. R.: *J. Path. Bact.*, 1949, 61, 203.
28. ASTRUP, T., AND PERMIN, P. M.: *Nature (London)*, 1947, 159, 681.
29. ASTRUP, T., AND ALBRECHTSEN, O. K.: *Scand. J. Clin. Lab. Invest.*, 1957, 9, 233.
30. ASTRUP, T., AND CLAASSEN, M.: Fibrinolytic and thromboplastic activities of the arterial wall, in *Trans. Sixth Congress Europ. Soc. Haemat.*, Copenhagen. Basel: Karger, 1957, pp. 455-458.
31. ASTRUP, T., ALBRECHTSEN, O. K., CLAASSEN, M., AND RASMUSSEN, J.: *Circ. Res.*, 1959, 7, 969.
32. COCCHERI, S., AND ASTRUP, T.: *Proc. Soc. Exp. Biol. Med.*, 1961, 108, 369.
33. TODD, A. S.: *J. Path. Bact.*, 1959, 78, 281.
34. TODD, A. S.: Tissue activator of plasminogen and thrombosis, in Walker, W., editor: *Thrombosis and Anticoagulant Therapy*. Edinburgh: Livingstone Ltd., 1960, pp. 25-31.
35. KWAAN, H. C., AND ASTRUP, T.: *Circ. Res.*, 1965, 17, 477.
36. McLEITCHIE, N. G. B.: *Amer. J. Path.*, 1952, 28, 413.
37. KWAAN, H. C., AND ASTRUP, T.: *Thromb. Diath. Haemorrh.*, 1964, 12, 407.
38. KWAAN, H. C., AND ASTRUP, T.: *J. Path. Bact.*, 1964, 87, 409.
39. KWAAN, H. C.: *Fed. Proc. (Review)*, 1966, 25, 52.
40. ASTRUP, T., AND COCCHERI, S.: *Nature (London)*, 1962, 193, 182.
41. CRAWFORD, T., AND LEVINE, L. I.: *J. Path. Bact.*, 1952, 64, 523.

(Continued on page 158)

Efficacy and Acceptability of Erythromycin Oral Preparations for Pediatric Practice

ROBERT T. SCANLON, M.D.*, AND JOHN L. NEMES, PH.D.†

THIS STUDY was undertaken to assess the value of a chewable tablet and an orally administered suspension of erythromycin in the management of infections commonly encountered in pediatric outpatient practice. Although erythromycin has a long history of usefulness in the treatment of infections due to a wide variety of organisms, special pediatric dosage forms of the drug only recently have been developed.

Cohn and Sorokowski¹ compared the effects of chewable tablets containing erythromycin ethyl succinate with those of chewable tablets containing hydrabamine penicillin V in a series of 225 unselected children from 5 months to 16 years of age. Both preparations were found to be effective, palatable, and associated with only a low incidence of mild and transient side-effects.

In another published study² these authors reported clinical cures within 48 hours, or symptomatic improvement followed by clinical cures in 89.1 per cent of 125 children. Chewable tablets, as well as an orally administered suspension of erythromycin ethyl succinate, were used. There were no side-effects of any kind. No positive correlation could be established between the clinical manifestations of the infection (patient's age, degree of fever, site, white blood cell count) and the identity of the causative organism.

Jones and Kronemer³ studied the acceptability and clinical efficacy of erythromycin chewable tablets, drops, and oral suspension in 115 children with tonsillitis, pharyngitis, otitis media, pneumonia, pneumonitis, bronchitis, and cervical adenitis. A satisfactory clinical response (excellent or good) was obtained in 86 per cent of the patients treated. Acceptability ratings, which were made by the mothers, varied widely depending upon the manner in which the drug was presented.

Cohen et al⁴ in a study of 300 children and

Pewters et al⁵ in a series of 159 patients obtained similar results with an orally administered erythromycin suspension.

Material* and Methods

One hundred and two children from 1 to 14 years of age were selected for study from a pediatric practice. Clinical conditions most frequently encountered were pharyngitis and tonsillitis. There were a few patients with bronchitis, cervical adenitis, otitis, skin infections, and 1 with conjunctivitis.

The patients were separated into 2 groups. One group of 77 patients received either erythromycin chewable tablets (62 patients) or an orally administered erythromycin suspension (15 patients). The second group of 25 random, unselected patients, which was to serve as a control, was given an orally administered suspension of potassium penicillin V. The daily dose of erythromycin was approximately 40 mg./Kg. of body weight given in 4 divided doses. The usual dose of potassium penicillin V was 200,000 units every 8 hours. The duration of therapy was dependent on the clinical course of the infection, except for those patients with beta hemolytic streptococcal infection who were treated for 10 days.

Cultures were grown on sheep's blood agar before antibiotic therapy was started and again at the conclusion of therapy. An attempt was also made to correlate the clinical findings (presence of an exudate, degree of hyperemia, presence of superficial blood vessels on the tonsils or on the pharyngeal wall, presence of adenopathy, and paleness of the patient) with the results of cultures.

Parents were given a form to complete in describing acceptance of the medication, effectiveness, and any evidence of allergy or intolerance.

* The preparations used in this study were supplied by Abbott Laboratories, North Chicago, Illinois as follows: Erythrocin® Chewable (erythromycin ethyl succinate) tablets, Erythrocin® Granules (erythromycin ethyl succinate) for oral suspension, Compocillin-VK Granules (potassium penicillin V) for oral solution.

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Results

Clinical response. The clinical results in 77 patients receiving either chewable tablets or an orally administered suspension of erythromycin ethyl succinate are shown in table 1. Clinical

TABLE 1: Clinical Response to Erythromycin

Clinical Diagnosis	No. of Patients	Cured	Improved	Unimproved	Intolerant
Pharyngitis...	36	23	6	7	0
Tonsillitis....	30	23	2	2	3
Other.....	11	5	3	3	0
Totals.....	77	51	11	12	3

Two of these patients, who were classified as treatment failures, were admitted to the hospital, 1 because of acute glomerulonephritis and the other because of bronchitis.

Of the 77 patients who received chewable tablets or an oral suspension of erythromycin, clinical cure or improvement was seen in 62 (81 per cent).

All 25 patients in the control group who received potassium penicillin V were clinically cured.

Bacteriologic response. The bacteriologic response in patients receiving either chewable tablets or an oral suspension of erythromycin is shown in table 2.

TABLE 2: Bacteriologic Response to Erythromycin

Clinical Diagnosis	Group A Beta Hemolytic Streptococcus		Coagulase-positive Staphylococcus Aureus	
	Pre-Rx	Post-Rx	Pre-Rx	Post-Rx
Pharyngitis (25)*	Present— 8	Present— 2	Present— 0	Present— 0
	Absent —17	Absent — 6 Present— 2 Absent —15	Absent —25	Absent — 0 Present— 2 Absent —23
Tonsillitis (18)	Present—12	Present— 7	Present— 4	Present— 0
	Absent — 6	Absent — 5 Present— 1 Absent — 5	Absent —14	Absent — 4 Present— 2 Absent —12
Other (4)	Present— 2	Present— 1	Present— 2	Present— 0
	Absent — 2	Absent — 1 Present— 0 Absent — 2	Absent — 2	Absent — 2 Present— 0 Absent — 2

* Number of patients from whom both pre- and post-treatment cultures were taken.

cure was defined as complete symptomatic relief within 72 hours. If a patient was afebrile, felt much better, but still had some symptoms following 72 hours of therapy, he was considered to be clinically improved. If there was no significant evidence of improvement after 5 days of therapy, the patient was considered to be unimproved.

Twenty-nine patients (81 per cent of 36 patients) with a clinical diagnosis of pharyngitis were either cured or improved. None of these patients showed any evidence of intolerance to erythromycin. Twenty-five of the 30 patients with a clinical diagnosis of tonsillitis were either cured or improved. Three of these patients showed evidence of intolerance, and erythromycin was discontinued without evaluation of its therapeutic effects. Eight of 11 patients with a variety of clinical diagnoses including bronchitis, cervical adenitis, otitis and skin infections were either cured or improved by erythromycin therapy.

Cultures were grown pre- and post-treatment in a total of 47 patients. Group A beta hemolytic streptococcus was the predominant organism in patients with pharyngitis and tonsillitis. It was eradicated in 12 of 22 patients who had positive pretreatment cultures. Coagulase positive *Staphylococcus aureus* was eradicated in all 6 patients with positive pretreatment cultures. Only 1 patient, with a clinical diagnosis of pharyngitis, had a positive culture for pneumococcus prior to therapy. This was negative after treatment.

Group A beta hemolytic streptococci persisted in spite of 10 days of erythromycin therapy in 10 of the 22 patients with positive pretreatment cultures. Clinical cures were obtained in 8 of these patients. One other patient was improved, and another patient showed intolerance to the drug. In no case did coagulase-positive staphylococci persist in spite of erythromycin therapy.

Positive cultures for beta hemolytic strepto-

cocci were obtained in 2 patients with pharyngitis who had shown negative bacteriologic tests for this organism prior to therapy. In one of these patients there was a clinical cure, and the other patient was unimproved. Two other patients with pharyngitis showed a similar bacteriologic response with respect to coagulase-positive *Staphylococcus aureus* (negative prior to therapy and positive post-treatment). Clinical cures were obtained in both of these patients.

One patient with tonsillitis had a negative pretreatment culture for beta hemolytic streptococcus and a positive post-treatment culture. Clinically this patient was cured. Two other patients with tonsillitis also experienced clinical cures, even though cultures for coagulase-positive *Staphylococcus aureus* showed evidence of this organism at the conclusion of therapy which had not been present prior to therapy.

Response to penicillin V. All 25 patients were clinically cured without any evidence of intolerance or allergic reactions. Eight patients had beta hemolytic streptococcus on initial cultures. This organism was still present in one of these patients on follow-up. Of the 17 patients with initially negative cultures for beta hemolytic streptococcus, 1 was found to have a positive culture for this organism on follow-up, and another showed a positive culture for coagulase-positive *Staphylococcus aureus* at the conclusion of therapy.

Patient acceptance. The results of the parents' evaluation of the acceptance of the erythromycin preparations are summarized in table 3. Potas-

TABLE 3: Patient Acceptance of Erythromycin Preparations

Response	Chewable Tablet	Oral Suspension
Liked very much.	18	5
Liked	21	8
Accepted	14	1
Disliked	9	1
Totals.....	62	15

sium penicillin V in the form of an oral suspension was well accepted by all 25 of the patients in the control group.

Comparison of clinical and bacteriologic findings. There was no single clinical manifestation, or combination of clinical signs, which was found to be indicative of a streptococcal throat infection. In many cases clinical evidence of a severe throat infection was not associated with positive bacteriologic findings. The opposite was also often true.

Discussion

A number of published reports confirm the value of erythromycin in the treatment of infections due to group A beta hemolytic streptococci.^{6, 7, 8} Our experience indicates an incidence of clinical cure comparable to that reported by others with various erythromycin preparations, but our data do not agree with the findings reported by others with respect to the persistence of beta hemolytic streptococci after 10 days of therapy.

In a report by Cohn¹ there was no persistence of this organism in any of the 14 patients on erythromycin ethyl succinate who had positive pretreatment cultures. Jones³ reported complete eradication of beta hemolytic streptococci with erythromycin ethyl succinate in all 15 patients with positive pretreatment cultures. In our experience beta hemolytic streptococci were found on post-treatment cultures in 10 of 22 patients with positive pretreatment cultures. Although clinical cures were achieved in 8 of these patients (1 other patient was improved, and another showed intolerance to the drug), persistence of the organism in such a high percentage of patients despite 10 days of therapy is in marked contrast with the results reported by Cohn¹ and Jones³ with erythromycin ethyl succinate and also with the results reported by others with various erythromycin preparations.

On the basis of this study we are not able to explain the divergence of our results. It has been suggested that inadequate chewing of the tablet might be responsible for failure to eradicate beta hemolytic streptococci. In this connection, although our observation has no statistical validity, we note that only 1 of the 10 patients in whom this organism persisted was receiving the orally administered suspension; the others received the chewable tablets.

Although the results in children with beta hemolytic streptococci suggest that the suspension of erythromycin is more effective than the chewable tablets, this impression cannot be confirmed by the results in a small number of patients with coagulase-positive staphylococci. This organism was eradicated in 6 children with positive pretreatment cultures. Three of these patients received the chewable tablets, and 3 received the oral suspension of erythromycin.

Three children showed evidence of intolerance to the erythromycin preparations used in this study, and therapy had to be interrupted. This represents a higher incidence of drug withdrawal

(4 per cent) than that reported by others. In this connection it should be noted that none of the patients on potassium penicillin V had to be taken off the drug because of side-effects.

Summary

One hundred and two children from 1 to 14 years of age were selected for a clinical study of the efficacy and acceptability of erythromycin ethyl succinate in the form of chewable tablets and an orally administered suspension. Pharyngitis and tonsillitis were the most commonly encountered clinical conditions. Clinical cures or clinical improvement was seen in 62 of 77 patients who received one or the other of the erythromycin preparations. Similar results were seen in all 25 patients who received potassium penicillin V. Both erythromycin preparations were readily acceptable by the majority of patients. Since no correlation could be shown between the clinical findings and the identity of the causative organism, it is suggested that throat cultures should be taken routinely to detect the presence of Group A beta hemolytic streptococci.

References

1. COHN, B., AND SOROKOWSKI, G.: Clinical evaluation of two chewable antibiotic preparations. *Curr. Ther. Res.*, 1965, **7**, 465.
2. COHN, B., AND SOROKOWSKI, G. W.: Erythromycin in the management of childhood infections. *Ibid.*, 1964, **6**, 619.
3. JONES, D. J., AND KRONEMER, N.: Parents' response to a drug study: clinical study of the acceptability and efficacy of pediatric forms of erythromycin. *Clin. Pediat. (Phila.)*, 1965, **4**, 137.
4. COHEN, J. R., SHUMAN, H. H., BLAKE, A., AND PLOTKIN, L. H.: Empirical use of erythromycin in pediatric office practice. *Clin. Med.*, 1965, **72**, 341.
5. PEWTERS, J. T., CHILD, S. B., AND HIATT, J. A.: Effectiveness of erythromycin in office practice. *Minnesota Med.*, 1965, **48**, 455.
6. WANNAMAKER, L. W., AND OTHERS: Prevention of rheumatic fever (Committee Report). *Circulation*, 1965, **31**, 948.
7. Resistance to antimicrobial drugs. *New Eng. J. Med.*, 1964, **270**, 152.
8. STOLLERMAN, G. H.: Sore throat: a diagnostic and therapeutic dilemma. *J.A.M.A.*, 1964, **189**, 145.

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42. MORE, R. M., MOVAT, H. Z., AND HAUST, D. M.: *Arch. Path. (Chicago)*, 1957, **63**, 612.
43. WOOLF, N., AND CRAWFORD, T.: *J. Path. Bact.*, 1960, **80**, 405.
44. HAUST, M. D., WYLLIE, J. C., AND MORE, R. H.: *Amer. J. Path.*, 1964, **44**, 255.
45. WYLLIE, J. C., MORE, R. H., AND HAUST, M. D.: *J. Path. Bact.*, 1964, **88**, 335.
46. RECHLINGHAUSEN, V.: See ref. 47, p. 10.
47. EBERTH, C. J., AND SCHIMMELBUSCH, C.: *Die Thrombose nach Versuchen und Leichenbefunden*. Stuttgart: Enke, 1888, p. 133.
48. WINTERNITZ, M. C.: See ref. 10, p. 94.
49. RUFFER, M. A.: *J. Path. Bact.*, 1911, **15**, 453.

Hip Prosthesis for Fracture of the Femoral Neck

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SINCE 1948 I have performed 250 hip prostheses including 16 bilateral cases (figure 1). The first prosthesis was done in 1948 for an old fracture of the femoral neck in a patient with severe Marie-Strümpell arthritis. The first prosthesis for a fresh fracture of the femoral neck was performed in March 1951 and represented the twentieth patient and the twenty-fifth prosthesis in this series (figure 2). In 96 cases the indication for prosthesis included rheumatoid arthritis, degenerative arthritis, aseptic necrosis, nonunion (figure 3), fracture dislocation (figure 4), and congenital dysplasia of the hip. Over 150 prostheses have been performed for fresh fracture of the femoral neck (figure 5). The Jaenichen-Collison type of prosthesis was used from 1948 until April 1952. Since that date the Fred Thompson type of vitallium prosthesis has been used exclusively. Of the 38 patients who had the Jaenichen-Collison prosthesis, 8 are known to have had 1 or more breakages, and there have probably been others. There has been no mechanical failure of the Thompson vitallium prosthesis. The first 19 cases included no fresh fractures of the hip. At present about 90 per cent of the prostheses are performed for recent fracture of the femoral neck.

The use of hip prosthesis, which was condemned by many authorities 15 years ago, has now become an accepted method of hip arthroplasty. Indications and technique have improved. However, there is still a tendency to make the operative procedure complicated including the use of X-ray examination, and there is reluctance to permit early weight-bearing.

I shall present briefly my experience with prostheses in fresh fractures of the hip. The patients have been elderly people with displaced fracture of the femoral neck. A patient who is acceptable for anesthesia and hip surgery is suitable for prosthetic replacement.

Technique

Early in this series a Smith-Petersen incision was used, but this was soon replaced by an antero-

lateral incision. The patient is placed in a semi-lateral position, and the hip is approached between the tensor and gluteal muscles by dividing the tissues from below upward. It has been found unnecessary to use a knife to cut the ligamentum teres since it can be avulsed by forcibly twisting the transfixed femoral head. The extremity is rotated internally, and the head is levered out on the neck as the extremity is rotated externally.



FIG. 1. Bilateral aseptic necrosis of femoral head (top). Appearance in 1964, 12 years after bilateral prosthesis (bottom). Note normal acetabulum which is essential for a good result.

With the hip flexed in full external rotation the upper end of the femur is contoured with a small handsaw, and the femoral neck is cut 1 finger-breadth above the lesser trochanter obliquely upward in line with the prosthetic neck. The Putti rasp has been found adequate for preparing the medulla of the femoral shaft. The acetabulum is not reamed, the cartilage and subchondral bone being preserved intact. In reducing the hip after the prosthesis has been applied, direct traction is made by an assistant, and the head is pushed downward by the operator as he rotates

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FIG. 2. First fracture of femoral neck treated in 1951 with former type (Jaenichen-Collison) prosthesis (left). On right as it appeared in 1964, 13 years later at age 86.



FIG. 3. Nonunion after fracture of femoral neck with nail penetrating joint, and appearance after prosthetic replacement. Excellent function resulted.



FIG. 4. Fracture-dislocation of hip and appearance 11 years later. No other method of reconstruction would give a comparable result.



FIG. 5. Fracture of femoral neck, lateral and anteroposterior views immediately postoperatively, and result 10 years later.

the extremity, no skid or mechanical leverage being used. After closure of the wound a compression dressing is applied from toes to waist. The operating time is less than 1 hour, and X-ray

control usually is not required. Weight-bearing is started without restriction, with assistance as required, the day after operation, and an effort is made to resume normal gait as soon as possible.

External support, such as crutches or walker, is discarded as soon as the patient's strength and balance permit.

Complications

In this personal series of fresh fractures no failure resulted from infection. (Infection occurred in only 2 cases of nonunion in the entire series.) One superficial infection developed in the fracture series which did not involve the joint and healed without loss of function. Hematoma has been a complication in a few cases, but healing occurred in all without residuals. With the use of an elastic compression dressing hematoma formation has diminished. Suction drainage has not been used in cases of prosthesis for a fresh fracture.

Gradual dislocation of the prosthesis occurred in 1 patient with spastic hemiplegia. One patient developed moderate, gradual protrusion of the prosthesis into the acetabulum. Looseness of the prosthetic stem was noted in several cases before the various sizes were available. If the proper size is used, the femoral head is properly contoured, and the proper length is maintained, the prosthesis remains in firm contact with the femur and the acetabulum.

Results

A detailed follow-up is not included in this brief report. The results have been very gratifying and have been far better than results from hip-nailing in comparable cases. Follow-up study is limited by the life expectancy of many of the elderly patients in this group. Some patients are already feeble and had very limited walking ability at the time of fracture. In a few cases the

operation has been done for comfort and to facilitate nursing care including the use of a wheel chair. No death occurred at operation or within the first postoperative week. The operation is slightly more serious than hip-nailing for femoral neck fractures. The patient who had the first prosthesis for a fresh fracture in 1951 has led a normal life as far as the hip is concerned, and she is still fully weight-bearing without discomfort. Others have been followed for 10 to 12 years. Function of the hip is dependent largely upon the patient's general condition, and no deterioration of the hip has been noted in this series of fresh fractures except in 2 cases as already stated. Not infrequently pain of varying degree has been noted, and there has occasionally been complaint of a clicking sensation about the hip. Occasionally periarticular calcification occurs. Two patients suffered fracture of the calcar at the time of reduction. One had a poor result, and the other was treated by insertion of a screw across the calcar below the prosthetic neck which permitted early full weight-bearing. Several minor undisplaced fractures did not interfere with recovery. In general, the patient can be quickly restored to his usual activity by prompt surgery and early ambulation. Results in hip prosthesis should be analyzed in relation to the patient's capacity before surgery and to the results after other methods of treatment.

This series of hip prosthesis may be of historical interest, since it includes some of the first cases performed in the United States. The best results with hip prosthesis are obtained in recent fractures. The best treatment of the displaced femoral neck fracture in the elderly person is a hip prosthesis.

Internal Mammary Arteriovenous Fistula^{*†}

Report of a Case

R. A. MASSUMI, M.D.‡

ARTERIOVENOUS FISTULA (AVF) involving the internal mammary vessels is interesting not only because of its rarity but also its ability to masquerade as congenital heart disease by virtue of its continuous murmur over the upper anterior chest. The entity has been reported only 8 times,¹⁻⁷ and in 2 of the patients thoracotomy for ligation of a suspected patent ductus arteriosus was performed. This communication will serve to add another case, bringing the total to 9. Moreover, it will be the first report, together with a physiologic explanation, of an AVF in which the AV connection was on one side of the body and the recipient veins on the contralateral side. The congestive heart failure which occurred 1 year before admission was shown through hemodynamic studies to be related to the high blood pressure and not the AVF.

Report of Case

A 46-year-old man was admitted to the hospital on January 12, 1966 because of an uncomplicated superficial stab wound on the posterior aspect of the left side of the chest. He was noted to have an extensive, tortuous venous pattern over the entire right hemithorax and right arm. He stated that he had fallen from a jump board in 1941, injured his anterior chest wall, and sustained fracture of his right clavicle. The right upper extremity became ischemic, cold and numb. Two years later a right subclavian AV fistula was surgically removed in another hospital by the method of complete excision. Several years after this operation, which failed to improve blood flow to the right arm, dilated veins began to appear over the anterior right side of the chest and continued to increase in size and extent until the time of the present admission. Severe

arterial hypertension developed some 10 years before admission, and congestive heart failure was diagnosed in September, 1965. The latter was controlled easily with digitalis and chlorothiazide and remained so on maintenance digitalis therapy.

The patient was a healthy-looking, muscular man whose primary concern was the grotesque vascular channels causing disfigurement of his chest and right arm (figure 1). The blood pressure was 230/120 in the left arm, and the pulse rate was 80/min. Arterial pulses in the right upper extremity were greatly diminished in amplitude and late in peak time (figure 2-A), but the skin temperature was, paradoxically, higher in this extremity than on the left. The right clavicle was absent, and the scar of the previous operation on the subclavian vessels was visible. Extensive wormlike dilated subcutaneous vessels covered the upper two-thirds of the right anterior chest region, the entire right upper extremity, and the periscapular area (figure 1). The skin over the anterior right hemithorax was warm. The vascular channels were visibly and palpably pulsatile in the right parasternal area, and careful inspection and graphic recordings made it clear that the pulsations were venous in nature (figure 2-B). The source of the pulsatile force was found to be an aneurysmal structure on the opposite side of the midline in the left second space parasternally, and recordings of pulsations from this area showed it to be arterial in contour (figure 2-C). While the tortuous veins over the chest were rigid and had the consistency of calcified arteries and were found on the roentgenogram to be in fact calcified (figure 3), the dilated veins in the right upper extremity were soft and easily collapsible. Auscultation over the aneurysmal structure revealed a grade 4/6 machinery murmur with louder systolic component beginning 0.08 sec. after the first heart sound. The murmur could be obliterated completely by pressure applied with the stethoscope. The so-called Branham's sign, i.e., slowing of the pulse rate after obliteration of the fistula, was unimpressive, with a fall of only 4 to 8 beats per minute, thereby suggesting a hemodynamically insignificant flow through the AV communication (figure 4). The heart sounds were unremarkable for a hypertensive person. The diagnoses at this time included: (1) postoperative occlusion of the right subclavian artery with modest flow through collaterals; and (2) arteriovenous fistula of the left internal mammary vessels with recipient veins situated

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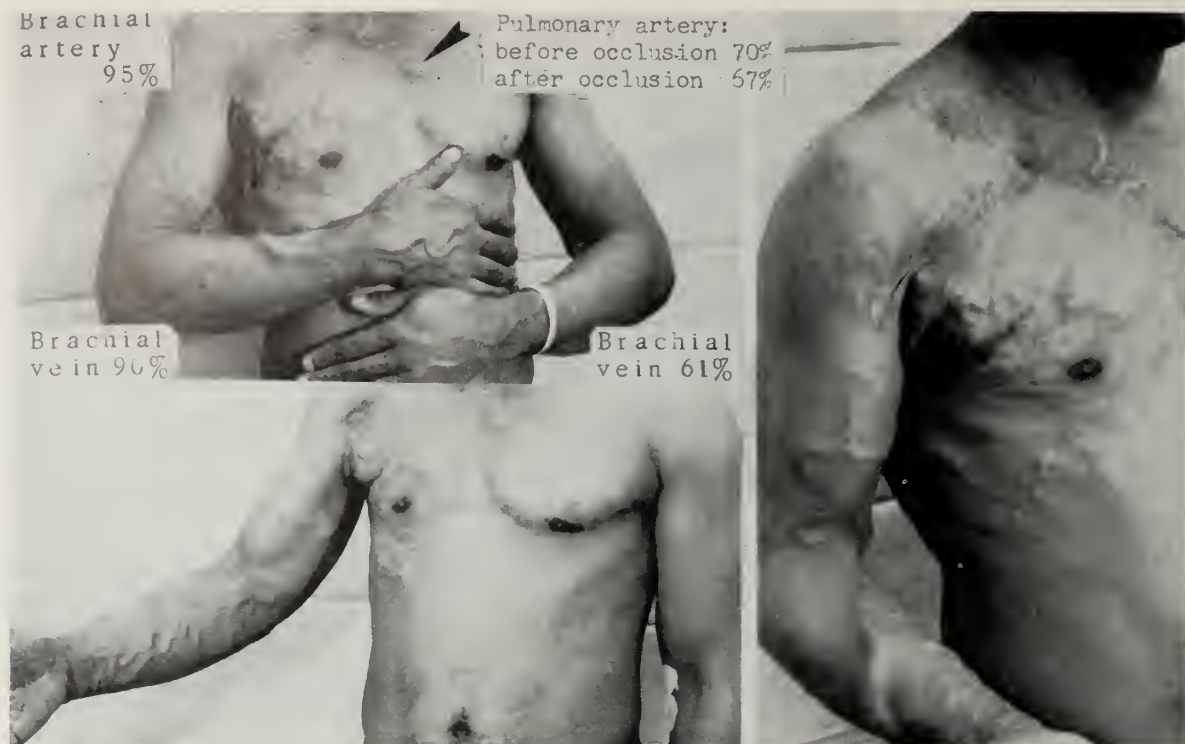


FIG. 1. Three photographs showing dilated venous channels on chest and right arm, scar of previous surgery on right subclavian vessels, and pulsatile mass at second left intercostal space (arrow). Figures arranged around photograph on top left depict oxygen saturation of blood samples obtained at time of cardiac catheterization from right brachial artery, right and left brachial veins, and pulmonary artery. Note arterIALIZATION of right brachial vein blood and lower saturation of pulmonary artery blood after pressure occlusion of AVF and stoppage of arteriovenous flow.

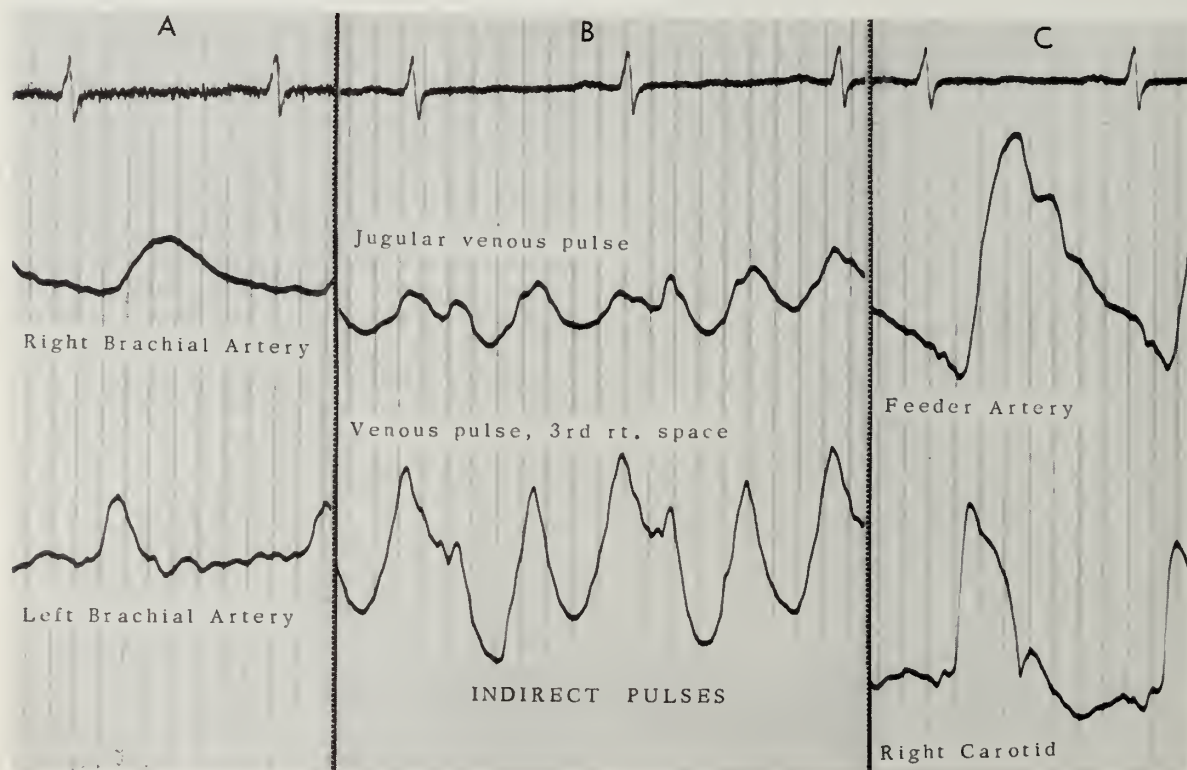


FIG. 2. (A) Right and left indirect brachial artery pulses showing late onset and damped peak on right due to flow through collateral circulation. (B) Venous pulse tracings recorded simultaneously from jugular vein and recipient veins on the anterior chest wall. Note that configuration is essentially the same in both pulses containing "a," "c" and "v." (C) Simultaneous pulse tracings from right carotid artery and pulsatile mass of fistula on chest showing arterial configuration.

on the contralateral side of the chest. The following special studies confirmed the above diagnoses and showed the flow through the fistula to be small.

Right- and left-heart catheterization revealed a control cardiac output of 9.23 l/min. (cardiac index 5.20 l/min./m²), and 7.85 l/min. after obliteration of the fistula. The heart rate was 88 beats/min. before and 84 after the fistula was compressed. The arteriovenous oxygen difference was 2.9 ml./100 ml. before and 3.21 ml./100 ml. after compression of the fistula. The cavity pressures were all within the normal range save for the left ventricle, where a pressure of 220/18 was recorded. The high end-diastolic pressure was caused by a prominent atrial contribution and was not considered indicative of left ventricular failure. The flow through the fistula calculated on the basis of the difference between the 2 outputs measured before and after obliteration of the AV communication was 1.38 l/min. or only 15 per cent of the total cardiac output.

Special studies and angiograms. Complete surgical interruption of the right subclavian artery in its intra-thoracic segment was demonstrated by a retrograde aortogram (figure 5-A, B). No AV communications were seen in the right hemithorax or the right cervical region. Collateral flow to the right upper extremity was demonstrated through transverse cervical arteries originating from the left side of the neck (figure 5-C). The right vertebral artery appeared to have been sacrificed during the previous surgical intervention, and for this reason a true subclavian steal syndrome was not present. A rich network of intercostal collateral arteries participated in bringing blood to the right arm, and in their path caused notching of the right upper ribs. Injection of contrast medium into the origin of the left internal mammary artery demonstrated a very tortuous, dilated vessel leading to an aneurysmal struc-

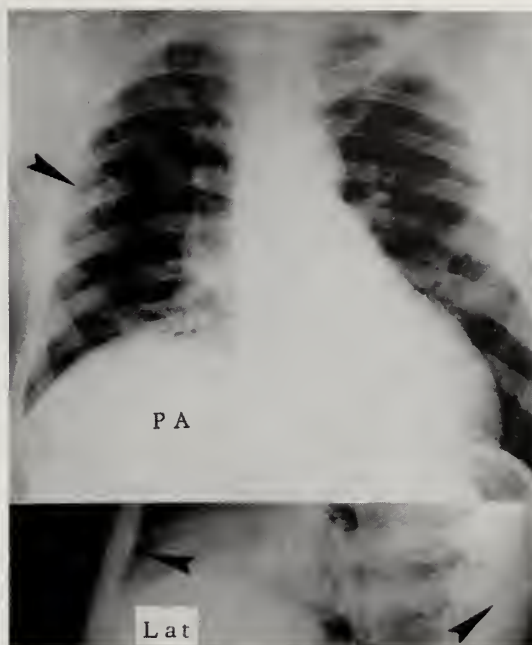


FIG. 3. Posteroanterior and lateral views showing left ventricular enlargement and calcification in anterolateral and posterior aspects of right hemithorax (arrows). Note notching of right upper ribs reflecting presence of large intercostal arteries carrying blood to right arm and absence of right clavicle and marked elevation of right hemidiaphragm resulting from surgical injury to right phrenic nerve.

ture 3 by 3 cm. This was situated at the left sternal border and corresponded with the aneurysm seen on physical examination (figure 6). From this aneurysmal sac contrast medium crossed the midline and opacified

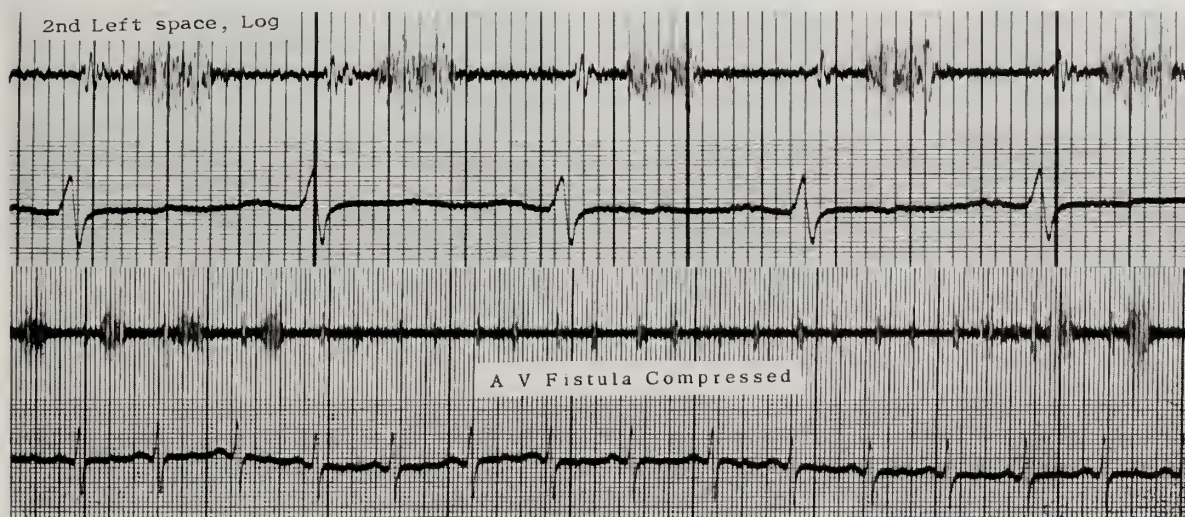


FIG. 4. Phonocardiogram recorded from pulsatile mass in second left space at speed of 75 mm./sec. (above) and 25 mm./sec. (below). Note late onset of murmur beginning 0.12 sec. after major deflection of first heart sound and disappearance of murmur after compression of fistula by microphone head. The pulse rate does not slow appreciably during this procedure.

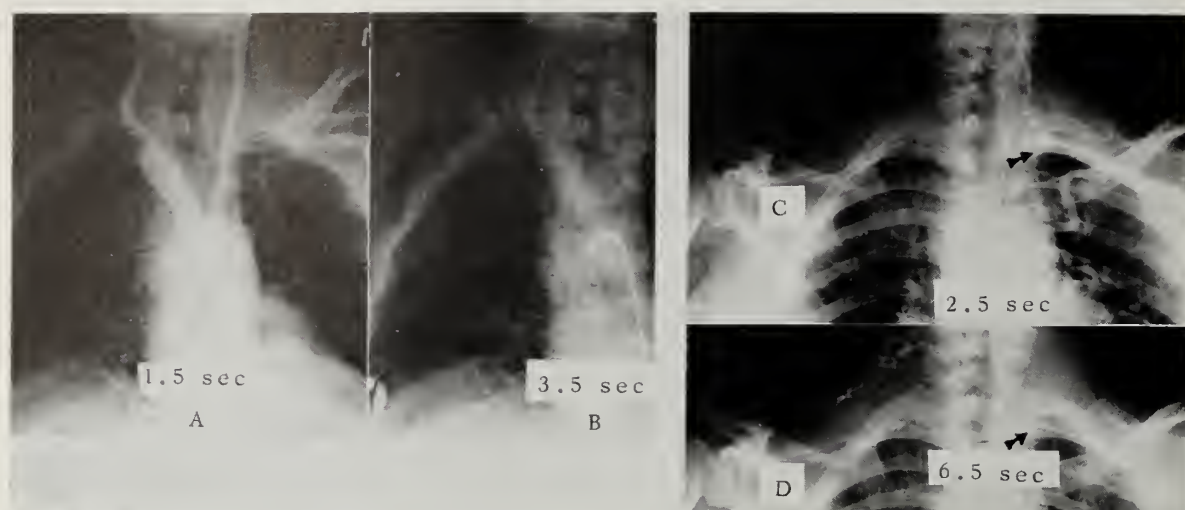


FIG. 5. (A) Retrograde aortogram depicting complete occlusion of right subclavian artery and large tortuous intercostal arteries on right carrying blood to the right arm through numerous small branches. (B) Same series 3.5 sec. after injection showing that contrast medium in arterial channels have reached right chest wall in its transit toward arm. (C) Left subclavian arteriogram with injection at origin of left vertebral artery (arrow). Note large tortuous vertebral on left and also very large internal mammary on same side. (D) Same series as in C with film taken 6.5 sec. after injection. Note large tortuous arteries bringing contrast medium to right arm from branches of left subclavian.



FIG. 6. (A and B) Left internal mammary arteriogram through a retrograde catheter advanced into left brachial artery (arrow). Note markedly dilated, tortuous internal mammary artery leading to aneurysmal sac visible in B. In the latter picture recipient veins over right hemithorax also have been visualized. (C, D and E) Consecutive films taken after direct injection of contrast medium into pulsatile mass (arrow). Note progressive visualization and advance of contrast medium into recipient veins in right hemithorax and retrograde flow down veins of right arm visible in E.

large tortuous venous channels extending as far as the right axilla and eventually descending along the superficial veins down the right arm. In order to obtain optimal angiographic visualization of these channels,

contrast medium was injected through a percutaneous needle directly into the aneurysmal sac, and again passage into the arm veins was demonstrated (figure 6).

Sampling for oxygen and CO_2 tensions from the

dilated venous channels of the right upper extremity showed arterialization of the blood in these veins and documented the presence of retrograde flow of arterial blood in these veins (figure 1). This finding explained the increased temperature of the right upper extremity in spite of severe arterial insufficiency.

Venous pressure was measured in both arms and was found to be higher on the right (figure 7). Respira-

of hemorrhage from operating on a highly vascular area with secondary calcifications.

Discussion

The 8 cases of internal mammary AVF reported so far had certain features in common with the present case (see table 1). Their uniform

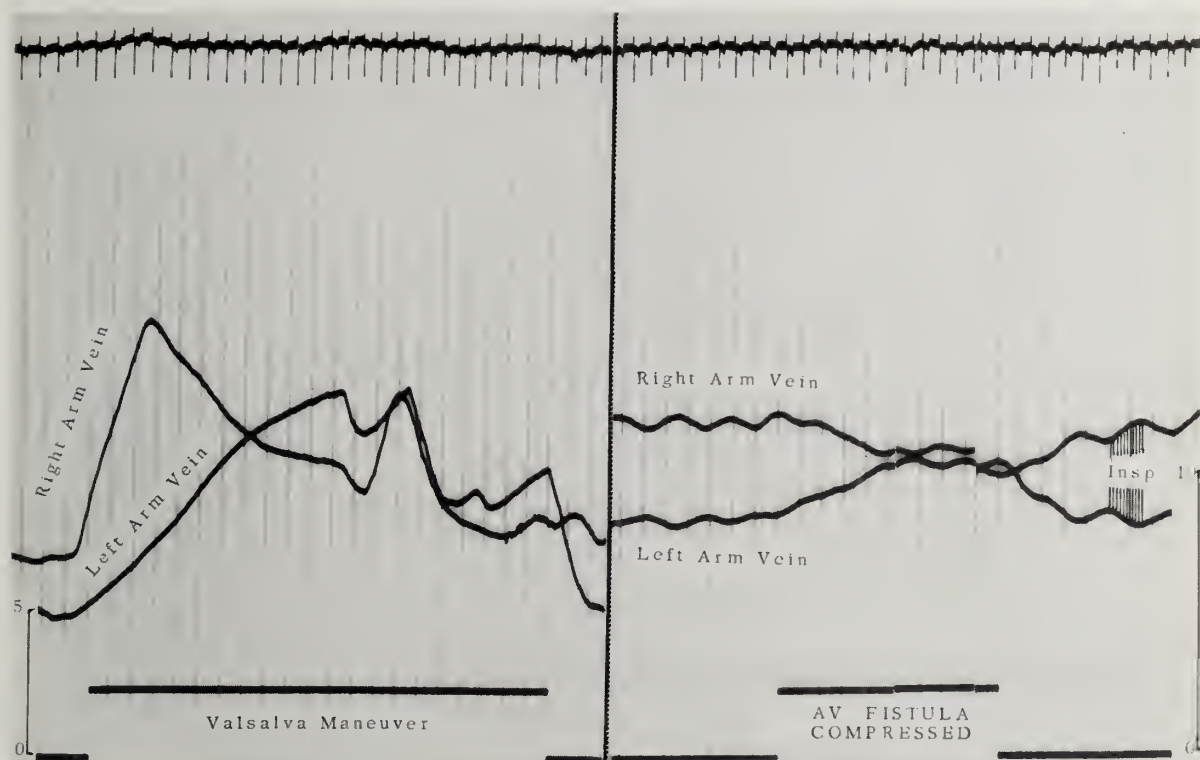


FIG. 7. Direct intravenous pressures from veins of both arms. In the left-hand panel, pressure recorded from right arm vein is higher than that of left. With onset of Valsalva maneuver pressure in left arm vein rises slowly as it normally should but ascends steeply in right arm presumably because of continued pumping of blood from fistula into these veins occluded at their entrance into thorax. Right panel shows same pressure at doubled amplification. Contrast opposite behavior of pressures in the 2 arm veins, i.e., the expected inspiratory decline of pressure on normal side and paradoxical rise on side receiving blood from the AVF. Moreover, compression of fistula with stethoscope head raises pressure in left arm vein and lowers that of right arm thereby equalizing the 2 pressures. While decline of pressure in right arm vein after obliteration of fistula may be easily understood, no ready explanation has been found for the simultaneous rise of pressure in left arm vein.

tory fluctuations were opposite in the 2 arms, i.e., the expected inspiratory fall on the normal side contrasted with inspiratory rise on the side of fistula. Valsalva maneuver produced a rise in pressure which was considerably steeper on the side of the AVF (figure 7).

Injection of Cardio-green® into the pulsatile mass and sampling from the right arm vein produced a large primary curve indicating free, direct flow from the AVF into the veins of the right arm. Similar curve recorded from the veins of the left arm showed no dye and was considered normal (figure 8).

Operative intervention was deemed inadvisable because of the small size of the shunt and the hazards

presentation in the second and third intercostal spaces probably reflects the topography of the vessels being protected by the clavicle above and the body of the sternum below these spaces. The presence of a continuous murmur was reported in all, and in fact 2 of the cases were operated on for suspected patent ductus arteriosus.^{2,4} It is suggested here that attention to the late onset of the murmur (0.08 sec. or longer after the first heart sound) will be sufficient for differentiation between a peripheral AVF and such central communications as patent ductus, coronary AVF,



FIG. 8. Cardio-green dye dilution curves after 2 injections into pulsatile mass with sampling from right brachial vein (above) and left brachial vein (below). Note large primary curve recorded from right arm vein indicating flow from fistula into veins of right arm. On left, contrariwise, there is no detectable trace of the indicator.

and ruptured Valsalva sinus aneurysms, in which circumstances the murmur begins immediately or within 0.04 sec. after the first heart sound.

In all previously reported cases the recipient veins remained intrathoracic and therefore invisible. The case under discussion presents a striking departure from this rule, particularly in view of the contralateral development of the venous

channels. The explanation for this bizarre phenomenon appears to be chronic ischemia of the right arm drawing arterial blood via retrograde venous filling toward this limb. The concept of retrograde venous filling as a consequence of ischemia was formulated originally by Seyss⁸ based on his observations of premature opacification of the femoral vein after femoral arteriogra-

phy in occlusive arterial disease of the legs. Similar observations were subsequently made by Hoskins.⁹ The inadvertent injection of contrast medium into the femoral vein proposed by Darborough¹⁰ to explain the early filling of the femoral vein appears untenable since opacification of the vein depicted by this author and others is distal to the site of injection of the contrast medium and does not appear at all like that resulting from direct injection. An analogous situation to be recalled at this point is that occlusion or attenuation of the pulmonary artery and the resultant pulmonary parenchymal ischemia draws blood from the bronchial arteries and leads to extensive bronchial artery-pulmonary vein anastomoses.¹¹

extremely large congenital cerebral AVF of the newborn are classical types causing heart failure. The remarkable truth is, however, that, contrary to general belief, traumatic AVF is seldom the cause of overt failure. The hemodynamic consequences of AVF are related directly to its size, and the thesis that proximity to the heart renders fistulas more malignant is undoubtedly a reflection of the larger size of the arteries likely to be involved.¹³ According to Creech et al¹⁴ only 15 per cent of all AVF produce detectable hemodynamic effects, and that of these only a small number lead to failure. These authors pointed out that fistulas involving arteries smaller than the brachial and popliteal never produce systemic

TABLE 1: Internal Mammary Arteriovenous Fistulas

Authors	Year	Patients' Age and Sex		Causes	Presenting Symptoms or Data
Glenn and Steinberg ¹	1957	48	F	Iatrogenic, suture	Buzzing
Wells and Hurt ²	1957	34	F	? Congenital	Surgery for suspected patent ductus art.
Brownlee and McGannon ³	1959	25	F	Knife wound	"Abscess" incised twice
Holland ⁴	1960	35	M	Fall	Surgery for suspected patent ductus art.
Greenfield and Hatcher ⁵	1963	38	M	Knife wound	—
Shirkey et al ⁶	1964	42	M	Ice pick wound	—
Chevrier and de La Fuente ⁷	1965	14	M	Unknown	Dyspnea
		24	M	Unknown	Chest pain
Present case	1966	46	M	Fall	Disfiguring venous channels

That the right arm did not depend wholly on the reversed venous flow is evident from the collateral arterial branches shown in the neck and also more graphically from the notching of the ribs.¹²

That cardiac decompensation in this patient was related to the high blood pressure and not the AVF is suggested by the ease with which it was controlled with digitalis and diuretic therapy and its failure to recur during the ensuing year. The large size of the feeder artery as visualized by selective arteriography is striking in view of the calculated flow of only 1.38 l/min. This discrepancy may be explained on the basis that, as proposed above, the chronic ischemia of the right arm demanded that a large portion of the flow through the AVF reach the tissues of this limb through retrograde venous pathways and serve as nutrient blood. In such an event the nutrient flow would behave like any other collateral arterial supply and would not raise the cardiac output.

That an AVF may lead to congestive heart failure through increase in blood volume and in cardiac output is indisputable. Experimental AVF between the aorta and portal vein and the

effects. In the consideration of overt congestive heart failure the line of demarcation may have to be drawn on still larger arteries. Muenster and associates¹⁵ reporting on 2 cases of hemodynamically documented heart failure secondary to femoral AVF in 1959 were able to find only 2 previous cases similarly documented. The extensive experience of World War II involving 375 patients¹⁶ with no cases of failure and of the Korean War including 215 cases¹⁷ resulting in heart failure only twice speaks effectively to this point. These observations indicate that while most AV fistulas are capable of leaving such detectable imprints as cardiomegaly and raised blood volume, very few of them and only the very large ones can be incriminated as the cause of heart failure. This point becomes particularly important when one realizes that failure is said to succeed the AVF by many years and even decades,^{18, 19} thus placing such patients in an advanced age group in whom elimination of other more common causes of failure may be difficult. In one report of failure presumed to be secondary to AVF by Dorney²⁰ only 4 out of 14 cases im-

Chronic Ulcerative Colitis, Xanthomatous Biliary Cirrhosis and Sarcoidosis*†

Report of a Case

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HOWARD E. TICKTIN, M.D., F.A.C.P.¶

THE CONCEPT of hepatic disease associated with chronic ulcerative colitis has undergone great changes in recent years. Involvement of the liver during the course of this disease appears to be more frequent than was previously recognized,¹ and the hepatic lesions may be cholestatic rather than parenchymal.² While these changes may regress, in many patients they become irreversible and occasionally progress to biliary cirrhosis. Jaundice on the basis of sarcoid involvement of the liver is rare,³ and to our knowledge only a few cases of biliary cirrhosis associated with sarcoidosis have been reported.^{4, 5}

Report of Case

A 30-year-old white man had been well until June 1957, when he noted the onset of progressively frequent bloody diarrhea. In May 1958 he was admitted to another hospital where he was found to have subclinical jaundice, hilar adenopathy and hepatosplenomegaly. Sigmoidoscopy and barium enema showed changes compatible with ulcerative colitis. He was treated with oral iron, blood transfusions, and antibiotics and discharged.

In March 1959 he was admitted to the D.C. General Hospital for a 9-week period because of generalized pruritus of 3 months' duration. He had been having 1

TABLE 1: Laboratory Data during Hospitalizations

DATE	Cholesterol (mg. %)	Bilirubin		Alkaline Phosphatase (B.U.)	Proteins		SGOT (units)	Cephalin Flocculation	Thymol Turbidity (units)	Calcium (mg. %)	Phosphorus (mg. %)
		Total	Direct		Total	Albumin					
		(mg. %)			(Gm. %)						
3/10/59 (adm.)	1,305	10.5	7.2	32	6.7	2.4	—	3+	40	10.6	4.4
5/29/59 (disc.)	860	5.0	2.4	23	7.7	4.4	70	2+	22	—	—
2/22/60 (adm.)	790	5.6	3.5	24	7.3	3.7	124	2+	38	8.0	3.2
3/19/60 (disc.)	790	7.5	5.5	23	—	—	—	—	—	—	—
3/15/61 (adm.)	636	10.5	6.1	29	8.0	4.6	300	2+	34	8.2	3.0
9/7/61 (adm.)	354	14.0	10.7	31	5.8	3.1	279	4+	57	—	—
3/12/65 (adm.)	270	20	—	21	6.0	3.3	330	—	18	9.4	2.8
3/27/65	220	50	—	—	—	—	400	—	—	—	—

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or 2 bowel movements per day since his previous hospitalization. He was now icteric and had xanthomas involving the palmar aspects of the hands and extensor surfaces of the elbow. Xanthomas were present on the eyelids. Generalized adenopathy and hepatosplenomegaly were also noted. A roentgenogram of the chest showed prominent bilateral hilar adenopathy. Laboratory data (table 1) demonstrated hyperbilirubinemia, hypercholesterolemia, greatly elevated alkaline phosphatase levels, and hyperglobulinemia. Esophagoscopy showed no abnormalities, but splenoportography revealed dilatation of the portal venous system and a pulp pressure of 420 mm. of water.

In April 1959 an exploratory laparotomy was performed. Numerous lymph nodes were noted around the cystic duct without evidence of compression or obstruc-

tion of the biliary tract. The liver was finely nodular with a few small discrete whitish nodules on the surface. Microscopic sections of the liver revealed septal fibrosis with pseudolobule formation, bile retention, and focal lobular necrosis. In 1 lobule a well circumscribed isolated noncaseating epithelioid granuloma was noted. A cystic-duct lymph node revealed multiple noncaseating epithelioid granulomas. Special stains revealed no acid-fast bacilli or fungi in the granulomas. A Kveim test was positive, and tuberculin tests were negative.

The patient was treated with glucosteroids (60 mg./day) without significant change in clinical status. The dose of glucosteroid was progressively decreased; before the time of discharge it had been discontinued.

In February 1960 the patient was readmitted because a pronounced anemia was found during a routine visit to the clinic. There had been no significant change in clinical status. Feces were found to contain occult blood, and esophagoscopy demonstrated moderate varices. The hematocrit was 24 per cent. Four transfusions were given. The performance of a portacaval anastomosis appeared to be precluded by the activity and severity of the liver disease.

The patient was readmitted in March 1961 because of frequent bloody diarrhea. Tests of liver function showed less abnormality (table 1). Numerous L.E. cell preparations were negative. A rectal biopsy showed chronic inflammation and superficial mucosal ulcerations.

In September 1961 he was admitted to the George Washington University Hospital because of nausea, hematemesis, and melena. He was found to be very icteric and to have multiple xanthomata and xanthelasmata, generalized adenopathy, hepatosplenomegaly, ascites, and 3+ peripheral edema. Over a 2-week period he received 65 units of blood because of persistent bleeding from esophageal varices. An emergency end-to-side portacaval anastomosis was performed; the preoperative and postoperative portal vein pressures were 560 and 260 mm. of water, respectively. At the time of surgery the liver and spleen were felt to be enlarged. No further progression of the granulomatous involvement of the liver was noted. There were distention and fibrosis of the gallbladder, and a large number of lymph nodes were seen surrounding but not obstructing the common and cystic ducts.

For the next 3½ years the patient remained well and had only 2 to 4 bowel movements per day. One month prior to his final admission he had an episode of hematochezia which required transfusion of 8 units of blood. He was readmitted to the George Washington University Hospital on March 12, 1965 because of recurrence of this rectal bleeding. The patient was deeply jaundiced; no xanthomata were noted, but xanthelasmata about the eyes were still present. The liver was firm, smooth and palpable 6 cm. below the right costal margin; the spleen was palpable 4 cm. below the left costal margin. Laboratory studies revealed a normal cholesterol level, although total bilirubin and alkaline

phosphatase values were still elevated (table 1). A roentgenogram of the chest again demonstrated hilar adenopathy (figure 1). A roentgenographic study of



FIG. 1. Hilar adenopathy.



FIG. 2. Loss of haustration, shortening of colon, and dilatation of terminal ileum.

the esophagus, stomach and small bowel revealed no abnormalities. Esophagoscopy showed no evidence of varices. Sigmoidoscopy revealed a friable and hyperemic mucosa with many small bleeding superficial ulcerations. A barium enema X-ray examination again demonstrated lack of distensibility, loss of haustration, and shortening of the colon (figure 2).

Progressively severe rectal bleeding persisted throughout the hospitalization. Multiple transfusions were required to maintain a hematocrit of 30 per cent. After 10 days, treatment with glucosteroids was initiated. There was some decrease in the rectal bleeding but a marked increase in total bilirubin. The patient then became lethargic, confused, and febrile. Despite massive doses of glucosteroids and antibiotics he developed grand mal seizures and died on March 26, 1965.

At necropsy the colon showed extensive fibrosis, shortening, and loss of haustration. Microscopic sections revealed chronic inflammatory changes and superficial mucosal ulcerations, consistent with chronic ulcerative colitis (figure 3). The lymph nodes in the hilum of the



FIG. 3. Chronic inflammatory changes and superficial mucosal ulcerations of colon.

lungs, the mediastinum, and the porta hepatis were enlarged. The common bile duct was found to be 5 mm. in diameter and was completely obstructed by an enlarged lymph node. Microscopic sections of the nodes revealed noncaseating granulomas (figure 4). The liver was enlarged (weight 3,500 Gm.) and finely nodular and showed sparse involvement with granulomas. Microscopic sections revealed extensive periportal fibrosis with lymphocytic infiltration and sparsity of bile ducts (figure 5). The lobules were circumscribed by broad bands of fibrous tissue; some lobules exhibited central necrosis. The larger bile ducts were dilated, and some contained neutrophilic leukocytes. Bile stasis and occasional calcified bile casts were seen in the smaller ducts (figure 6).

Discussion

This patient, when first seen, following a relatively short history (11 months) had typical changes of chronic ulcerative colitis on sigmoidoscopic and barium enema examinations. In addition, he had advanced liver disease and prominent hilar adenopathy. Subsequently liver and lymph-node biopsies led to a diagnosis of biliary cirrhosis

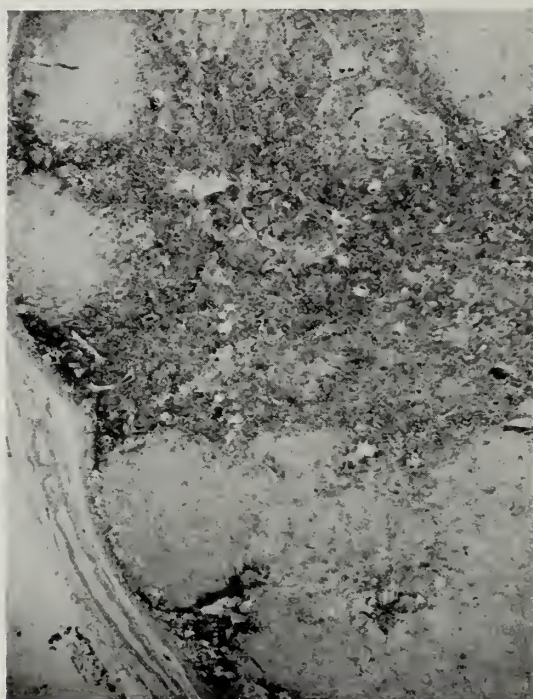


FIG. 4. Noncaseating granulomas in lymph nodes.

and sarcoidosis. The clinical course was characterized by intermittent gastrointestinal bleeding, diarrhea, portal hypertension, persistent jaundice, and xanthomata. Regression of the xanthomata

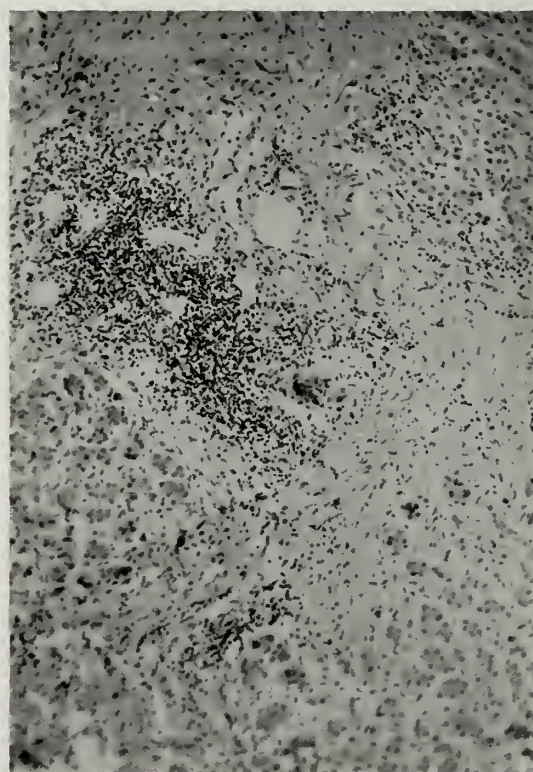


FIG. 5. Peripheral fibrosis, lymphocytic infiltration, and sparsity of bile ducts in liver.

occurred as the serum cholesterol slowly decreased over a period of 6 years. Liver function studies repeatedly demonstrated hypercholesterolemia, hyperbilirubinemia, and greatly elevated alkaline phosphatase levels, changes characteristically seen in biliary cirrhosis. Therapy with steroids and antibiotics did not appear to alter appreciably his clinical course.

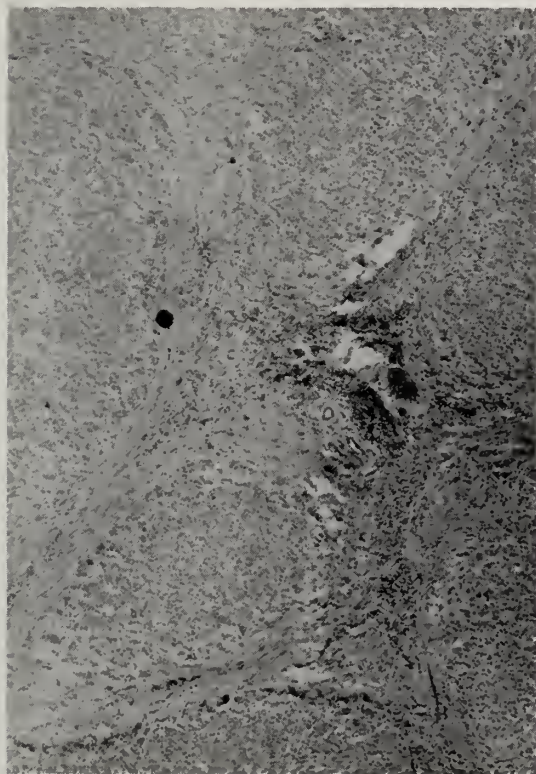


FIG. 6. Broad bands of connective tissue circumscribing pseudolobules of liver.

The true incidence of hepatic involvement in chronic ulcerative colitis is not known. In a review of 190 cases of nonspecific ulcerative colitis by Boden and co-workers,⁶ 33 had biopsy or necropsy evidence of hepatic disease. Vinnik and Kern¹ in an extensive review in 1963 noted that hepatic abnormalities in this disease were considerably more common than had been recognized previously and that steatosis of the liver was present in 60 per cent of patients with chronic ulcerative colitis. It is generally agreed, however, that biliary cirrhosis is relatively rare. Studies by Kleckner⁷ and more recently Stauffer and co-workers² suggest that in about 7 per cent of patients with hepatic involvement there is progression to biliary cirrhosis.

The pathogenesis of the liver disease in ulcerative colitis remains obscure. The evidence at

present suggests that a combination of factors including portal bacteremia,^{8,9} toxins,¹⁰ and increased susceptibility to serum hepatitis¹ may be operative. Although an altered immunologic response in these cases has been postulated, proof of this hypothesis has not been obtained.^{10,11} Regardless of etiology, recent clinical and pathologic data suggest that the primary insult is cholestatic rather than parenchymal in type, as was originally assumed. It is associated with an inflammatory reaction of the intrahepatic bile ducts and of the connective tissue around the hepatic artery, portal vein and bile ducts of the portal triad ("portal triaditis").^{2,12} Over a period of years these changes become chronic and irreversible with inflammation, fibrosis, and destruction of the interlobular ducts. In most patients with this lesion progression to biliary cirrhosis occurs over many years, often after the colitis has become relatively quiescent. In the present case, however, cirrhosis developed while the colitis was still active and was found to be present only 11 months after the onset of symptoms.

The presence of hilar and generalized adenopathy, the negative tuberculin test, the positive Kveim test, and the histologic demonstration of noncaseating granulomas established the diagnosis of sarcoidosis. The simultaneous presence of sarcoidosis in a patient with chronic ulcerative colitis and biliary cirrhosis is an intriguing and, to our knowledge, unique occurrence. It is of interest that all 3 conditions have been linked with possibly altered immunologic mechanisms although of different types. A number of studies suggest that ulcerative colitis^{13,14} and biliary cirrhosis^{15,16} may represent a hyperimmune state.

Sarcoidosis has been grouped with the immunologic deficiency diseases, although the ability to form circulating antibodies in this disease appears to be intact.¹⁷ However, the interrelationship of these diseases at a cellular level is unclear.

Sarcoid involvement of the liver is estimated to occur in about 65 per cent of cases, but its presence is clinically suspected in only 20 per cent of cases.¹⁸ Jaundice on the basis of sarcoid lesions of the liver is rare. Porter³ in a critical review in 1961 found only 8 cases including those that he reported. To our knowledge only 1 case of sarcoidosis followed by biliary cirrhosis and xanthomatosis has been reported.⁴ The sarcoid granulomas in the liver are more frequently localized in or near the portal triads and produce a modest amount of peripheral fibrosis¹⁹ which in rare instances has been reputed to progress to

cirrhosis and to produce portal hypertension.²⁰ Although our patient had noncaseating granulomas in the liver at the time of initial biopsy, the lesions were widely scattered and not associated with a significant fibrotic reaction. Inspection of the liver on subsequent laparotomy and at necropsy failed to reveal further granulomatous involvement.

Of more importance in this patient was the widespread lymph-node involvement. From the literature the incidence of biliary-tract obstruction in sarcoidosis on the basis of lymphadenopathy is difficult to assess, but it appears to be low.^{3, 21} At the time of initial laparotomy and subsequently when portacaval anastomosis was performed numerous enlarged lymph nodes were present in the region of the porta hepatis without evidence of obstruction or impingement on the biliary tract. At autopsy 3½ years later the enlarged nodes were found to have produced complete obstruction of the common duct. This obstruction probably occurred preterminally and explains the sudden great rise in total bilirubin level during the final days of hospitalization.

Chronic ulcerative colitis and an associated biliary cirrhosis appear to have been the disorders responsible for the principal clinical manifestations in this patient, while the sarcoidosis was quiescent and did not produce significant morbidity until his terminal admission.

Summary

A case of chronic ulcerative colitis, xanthomatous biliary cirrhosis and sarcoidosis in a young man has been presented. The clinical course was characterized by intermittent gastrointestinal bleeding, diarrhea, portal hypertension, persistent jaundice, and xanthomata. The biliary cirrhosis was thought to be associated with the chronic ulcerative colitis rather than with the sarcoidosis. The pertinent literature has been reviewed.

We wish to thank Dr. Todd Beckerman and Dr. Frank Jannota of the Pathology Department, George Washington University Hospital, for interpretation of the pathologic specimens and Mrs. Carmel Smith for secretarial assistance.

References

1. VINNIK, I. E., AND KERN, F., JR.: *Arch. Intern. Med.* (Chicago), 1963, **112**, 41.
2. STAUFFER, M. H., SAUER, W. G., DEARING, W. H., AND BAGGENSTOSS, A. H.: *J.A.M.A.*, 1965, **191**, 829.
3. PORTER, G.: *Arch. Intern. Med.* (Chicago), 1961, **108**, 483.
4. HOLTZMAN, I.: *New York J. Med.*, 1961, **61**, 1757.
5. DAGRADI, A. E., SOLLOD, N., AND FRIEDLANDER, J. H.: *Ann. Intern. Med.*, 1952, **36**, 1317.
6. BODEN, R. W., RANKIN, J. G., GOULSTON, J. M., AND MORROW, W.: *Lancet*, 1959, **2**, 245.
7. KLECKNER, M. S., JR., STAUFFER, M. H., BARGEN, J. A., AND DOCKERTY, M. B.: *Gastroenterology*, 1952, **22**, 13.
8. BROOKE, B. N., AND SLANEY, G.: *Lancet*, 1958, **1**, 1206.
9. BROOKE, B. N., DYKES, P. W., AND WALKER, F. C.: *Postgrad. Med.*, 1961, **37**, 245.
10. VINNIK, I. E., AND KERN, F., JR.: *Gastroenterology*, 1963, **45**, 529.
11. Case Records of the Massachusetts General Hospital: Case 4-1964. *New Eng. J. Med.*, 1964, **270**, 199.
12. VINNIK, I. E., KERN, F., JR., AND CORLEY, W. D.: *Gastroenterology*, 1963, **45**, 492.
13. KIRSNER, J. B.: *J.A.M.A.*, 1965, **191**, 809.
14. KOFFLER, D., GARLOCK, J., AND ROTHMAN, W.: *Proc. Soc. Exp. Biol. Med.*, 1962, **109**, 358.
15. POPPER, H., RUBIN, E., AND SCHAFFNER, F.: *Amer. J. Med.*, 1962, **33**, 807.
16. PARONETTO, F., SCHAFFNER, F., AND POPPER, H.: *New Eng. J. Med.*, 1964, **271**, 1123.
17. GOOD, R., KELLY, W., ROTSTEIN, J., AND VARCO, R.: *Progr. Allerg.*, 1962, **6**, 187.
18. BRANSON, J. H., AND PARK, J. H.: *Ann. Intern. Med.*, 1954, **40**, 111.
19. SHAY, H., AND OTHERS: *Gastroenterology*, 1951, **19**, 441.
20. CHEITLIN, M., AND SULLIVAN, B. H., JR.: *Med. Ann. D. C.*, 1959, **28**, 506.
21. NAULLEAU, M. M., FOURRIER, E., AND PERREAU, P.: *Arch. Mal. App. Dig.*, 1961, **50**, 63.

Spontaneous Pneumothorax Simulating Acute Appendicitis

Report of a Case

MAJOR DAVID T. PITKETHLY, MC, USA*

IT IS WELL KNOWN that acute appendicitis may show many varied clinical patterns and is frequently a difficult diagnosis to make. The atypical history and physical examination are as common as the "classical" syndrome. This case is presented as a typical acute appendicitis which proved otherwise on the routine preoperative X-ray examinations. It illustrates the importance and usefulness of the "routine" admission examinations and demonstrates a rare manifestation of pneumothorax.

Report of Case

A 39-year-old Caucasian male (W. T. D.) was admitted to the hospital on September 28, 1961 because of abdominal pain of 24 hours' duration. He had been in excellent health until the day prior to admission, when he had the onset of acute epigastric "cramping" pain. He was nauseated and anorexic but did not vomit. The pain gradually increased in intensity. Approximately 16 hours prior to admission it shifted from the epigastrium to the right lower quadrant, where it remained to the time of admission. The only food intake in the 24 hours prior to admission was an egg and a few soda crackers which had no effect on the pain.

The patient had been in excellent health except for an emergency cholecystectomy for cholelithiasis in 1945. Appendectomy was not done at that time. In 1954 and again in 1958 he had had left spontaneous pneumothoraces. He was treated with bed rest on both occasions with complete recovery.

Physical examination revealed a well developed, moderately obese man in acute abdominal distress. The blood pressure was 120/85, the pulse rate 92, the temperature 99°F, and the weight 231 pounds. Head, eyes, ears, nose, and throat were negative. The chest was symmetrical with good expansion bilaterally, and the lungs were clear to percussion and auscultation, but the chest wall was extremely thick, making examination difficult. No mediastinal crunch was elicited. Examination of the heart was within normal limits, and there were no murmurs. The abdomen was obese. There was

no rigidity, but there was definite guarding in the right lower quadrant in the area of McBurney's point. There was marked tenderness on deep palpation, particularly in the right lower quadrant with rebound referred to the same area. No masses were palpable, and the bowel sounds were normal. There was no localization of tenderness on rectal examination. The remainder of the physical examination was within normal limits.

On admission the white blood cell count was 10,000 with 80 per cent neutrophils, 1 per cent band forms, 17 per cent lymphocytes, and 2 per cent monocytes. A urinalysis was normal, and the hematocrit was 51 per cent.

The initial impression was that of acute appendicitis. However, routine chest X-ray films revealed a large left pneumothorax. A flat plate of the abdomen demonstrated dissection of air paravertebrally to the sacrum caudally and laterally between the abdominal oblique muscles on both sides. There was no dissection of air into the neck or mediastinal shift. It was thought that the abdominal symptoms were most likely secondary to the pneumothorax and secondary to the abdominal air dissection. A chest tube was placed in the second interspace anteriorly and water seal suction started. Within 24 hours there was complete regression of all abdominal symptoms with an essentially normal physical examination. Subsequent X-ray films of the chest and abdomen were normal.

The patient eventually came to surgery, and a large cyst was resected from the left upper lobe. The post-operative course was unremarkable, and the patient was discharged from the hospital.

Discussion

Cases similar to this are very uncommon in the literature. Steigmann and Singer¹ in 1936 summarized 4 cases from the literature and submitted 3 cases which they observed. In all 7 cases the chief complaint was of severe unrelenting abdominal pain. Four left pneumothoraces and 3 right pneumothoraces were diagnosed, and 5 were confirmed on X-ray examination. There was no mention of retroperitoneal or free peritoneal air. Only 1 patient had significant chest pain, and 1 other patient had very slight chest pain. The

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pain was most frequently located in the epigastrium, and a presumptive diagnosis of perforated peptic ulcer was made in 5 cases. Four patients underwent exploratory laparotomy.

A very interesting aspect of these cases is the almost complete absence of chest pain. Stanek et al² in their review of 71 cases of spontaneous pneumothorax report that over 90 per cent of the patients had chest pain and dyspnea. Myerson³ reviewed 100 cases of spontaneous pneumothorax and found chest pain in each patient, which was always localized to the side of the involved lung. Other authors reported similar pain patterns in up to 100 per cent of patients. The patient presented in this report was interrogated very carefully and vigorously denied chest pain at any time during the course of his illness.

It would appear that the abdominal pain in the case presented and in the cases of Steigmann and Singer was due to dissection of air under pressure into the retroperitoneal tissues. The lack of chest pain is probably because the seepage of air from the thoracic cavity keeps intrathoracic tension at a lower level than in the usual case of spontaneous pneumothorax. This assumption is somewhat supported by Banyai's observations⁴ on the production of pain in artificial pneumothorax. Using careful measurement of the amount of air injected into the thoracic cavity, he found that with less than 300 c.c. of air there was no pain. However, quantities of air greater than 300 c.c. invariably produced pain, the intensity of which was directly proportional to the amount administered.

Summary

A case of left pneumothorax has been reported in which air dissected retroperitoneally and caused the symptoms and signs of acute appendicitis. A mechanism for the presence of abdominal pain and absence of chest pain has been postulated.

References

1. STEIGMANN, F., AND SINGER, H.: Spontaneous pneumothorax simulating acute abdominal affections. *Amer. J. Med. Sci.*, 1936, 192, 67.
2. STANEK, R. G., WILSON, J. L., AND ROGERS, W. L.: Spontaneous pneumothorax: a review of 71 cases. *Dis. Chest*, 1961, 4, 391.
3. MYERSON, R. M.: Spontaneous pneumothorax: a clinical study of 100 cases. *New Eng. J. Med.*, 1948, 238, 461.
4. BANYAI, A. L.: Direct and indirect pneumoperitoneum incidental to artificial pneumothorax. *Amer. J. Med. Sci.*, 1933, 186, 513.

Internal Mammary Arteriovenous Fistula— Massumi

(Continued from page 169)

proved and were "cured" after surgical correction of the fistula.

The size of the AVF in the present case was certainly too small by any criterion to produce heart failure, and the calculation of flow through it was in keeping with this thesis.

Summary

A case of left internal mammary arteriovenous fistula with some unusual features has been reported. The contralateral development of the venous channels has been attributed to the chronic ischemia of the right upper extremity encouraging retrograde venous filling toward the tissues of this limb.

The cardiac failure observed in this case was shown not to be related to the AVF. It has been emphasized that only very large AVF are capable of producing congestive heart failure and that smaller fistulas cause cardiomegaly and increased blood volume without further embarrassment of cardiac functions.

References

1. GLENN, F., AND STEINBERG, I.: *J. Thorac. Cardio. Surg.*, 1957, 33, 719.
2. WELLS, B. G., AND HURT, R. L.: *Brit. Heart J.*, 1957, 19, 135.
3. BROWNLEE, W. E., AND MCGANNON, P. T.: *J. Thorac. Cardio. Surg.*, 1959, 38, 271.
4. HOLLAND, R. H.: *Ibid.*, 1960, 39, 767.
5. GREENFIELD, L. J., AND HATCHER, C. R., JR.: *Ann. Surg.*, 1963, 158, 129.
6. SHIRKEY, A. L., BAAY, J. E., LAW, S. W., AND DE BAKEY, M. E.: *J. Thorac. Cardio. Surg.*, 1964, 48, 49.
7. CHEVRIER, J. L., AND DE LA FUENTE, A.: *J. Chir. (Paris)*, 1965, 90, 441.
8. SEYSS, R.: *Z. Kreislaufforsch.*, 1958, 47, 447.
9. HOSKINS, E. O. L.: *Brit. J. Radiol.*, 1964, 37, 66.
10. DARBOROUGH, A., AND HUGH, A. F.: *Radiology*, 1965, 84, 527.
11. MASSUMI, R. A., AND DONOHUE, R. F.: *Circulation*, 1965, 31, 436.
12. CAMPBELL, M.: *Brit. Heart J.*, 1958, 20, 253.
13. HOLMAN, E.: *Ann. Surg.*, 1945, 122, 210.
14. CREECH, O., JR., GANTT, J., AND WREN, II.: *Ibid.*, 1965, 161, 908.
15. MUENSTER, J. J., GRAETTINGER, J. S., AND CAMPBELL, J. A.: *Circulation*, 1959, 20, 1079.
16. ELKIN, D. C., AND WARREN, J. V.: *J.A.M.A.*, 1947, 134, 1524.
17. HUGHES, C. W., AND JANKE, E. J., JR.: *Ann. Surg.*, 1958, 148, 790.
18. LEWIS, D. D.: *Lancet*, 1930, 2, 621.
19. TAKARO, T., AND CLAGETT, O. T.: *J. Thorac. Surg.*, 1951, 21, 444.
20. DORNEY, E. R.: *Amer. Heart J.*, 1957, 54, 778.

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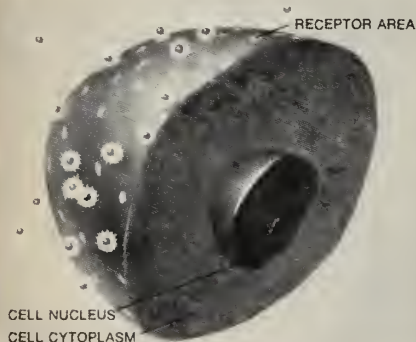
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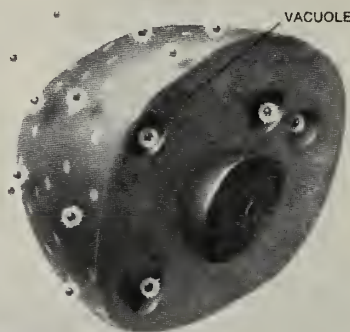
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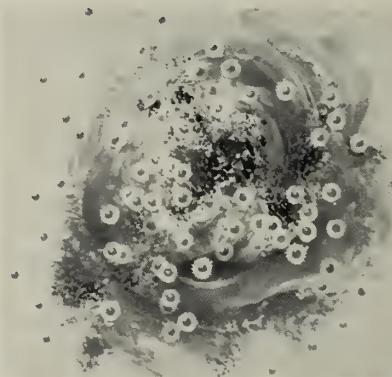
How the influenza virus invades and destroys the untreated cell



1 Viruses outside the cell attach themselves to specific cell receptor areas

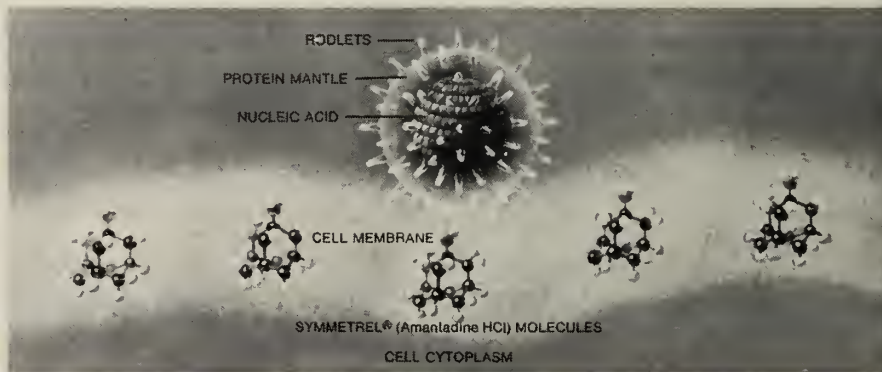
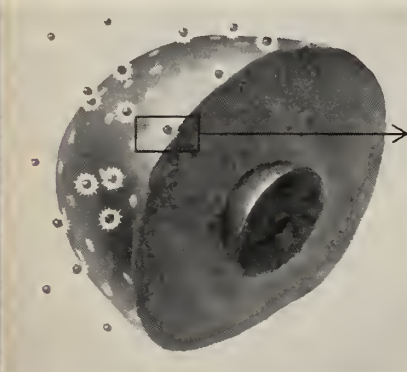


2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

How Symmetrel® (Amantadine HCl) prevents virus invasion¹



Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., *Journal of Bacteriology* 90,623 (1965).

Safety of Symmetrel® Confirmed. When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Prescribing Information

Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A₂ in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A₂. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

Contraindications: Not indicated for the prevention of influenzal or respiratory illness other than influenza A₂ or for the treatment of established disease.

Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such

as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

How Supplied: *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.

Syrup: Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.



Symmetrel®

(Amantadine HCl)

A molecular barrier to virus penetration



NEW EVIDENCE:

Pro-Banthine[®] (propantheline bromide)
gives positive, selective benefits in
gastrointestinal disorders.



Intragastric photograph of pyloric region showing complete relaxation of pyloric sphincter with 6 mg. of Pro-Banthine intravenously.

AN IMPORTANT PROBLEM in managing gastrointestinal disorders has been the choice of an anticholinergic agent which will act positively and selectively on the gastrointestinal tract without extensive secondary effects.

Recent direct observations with the cinefibergastroscope and intragastric photography¹ visually confirm previous evidence that Pro-Banthine does, indeed, possess such selective activity.

Barowsky and his associates demonstrated that a minimal dose of 6 to 8 mg. of Pro-Banthine intravenously produced complete relaxation of gastric activity. Secondary effects were not significant.

By contrast, it required 0.8 mg. or double the usual dose of atropine intravenously to achieve similar gastric relaxation. Side effects of this dosage of the belladonna alkaloid were pronounced. Ventricular rates were as high as 150 per minute.

For positive, selective anticholinergic benefits Pro-Banthine is indicated in patients with peptic ulcer, gastritis, irritable colon and other forms of gastrointestinal hypermotility.

Dosage: The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

Contraindications: In glaucoma or severe cardiac disease.

Precautions: Since varying degrees of urinary hesitancy may occur in the elderly male with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug.

Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

Side Effects The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

1. Barowsky, H.; Greene, L.; Bennett, R., and Buganza, G.: The Effect of Anticholinergic Drugs on Gastric Motility and Pyloric Function, Scientific Exhibit, Annual Convention of the American Medical Association, Chicago, Illinois, June 26-30, 1966.

When the battle with bacteria is in the upper respiratory tract

Routes of invasion through the oral and nasal passages to the nasopharyngeal mucosa: artist's depiction of sagittal section of head in perspective.



consider Gantanol (sulfamethoxazole)



To rapidly help the patient win against upper respiratory infections

When the respiratory tract has been invaded, an antibacterial that can assure effective yet generally uncomplicated therapy is your first line of defense...an agent such as Gantanol (sulfamethoxazole), the wide-spectrum antibacterial from Roche.

Gantanol (sulfamethoxazole) is effective against common susceptible upper respiratory pathogens, both gram-positive and gram-negative. Acting at foci of bacterial invasion, Gantanol (sulfamethoxazole) promptly helps control most infections, yet usually presents few problems to patients. Dosage is convenient and provides a measure of economy.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

How supplied: Tablets, 0.5 Gm, bottles of 50.

Roche Laboratories, Division of Hoffmann-La Roche Inc., Nutley, N. J. 07110

**When there are bacterial invaders
in the upper respiratory tract**

Gantanol[®]
(sulfamethoxazole)





"Yes, Doctor, the pain is gone."

- Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

'Empirin'® Compound with Codeine Phosphate gr. 1/2 No. 3

Each tablet contains: Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.



Keeps the Promise of Pain Relief

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



PRESIDENT'S PAGE

COMMUNICATION—VITAL TO EFFICIENT MEDICAL SERVICE



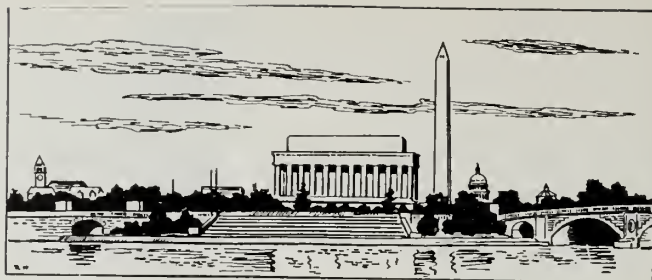
DESPITE ALL THE WONDERS of modern science and technology, breakdowns frequently occur in many areas of today's living because of neglect of one of the basic essentials—communication. We are blessed (or cursed) with telephone, telegraph, telephoto, television—with ground-to-air, ship-to-shore, tape-recorder, short-wave, transistor, walkie-talkie, etc. *ad nauseam*, but what is too often omitted is the human voice with brain attached. Misunderstanding, mismanagement, confusion, or catastrophe may be the direct result of lack of communication.

Let us examine this as applied to the everyday practice of medicine (although the same principle embraces every phase of personal, family, community, national, and international affairs). Physicians should communicate with their patients as well as vice versa. How often do we hear the complaint, "My doctor didn't tell me anything." The patient should be supplied to the extent that his intelligence and psyche can tolerate with the appropriate data concerning his condition and its prognosis, and the why and wherefore of the proposed treatment program. Physicians should communicate with physicians—fully, directly and promptly—in referrals, transfers, consultations, and joint care. This is common courtesy as well as an essential feature in promoting better professional relations and improved quality of patient care.

Hospital staffs should communicate with physicians. Patients too often lose their doctors, and doctors their patients, in accident rooms and emergency admissions, due to failure of hospital personnel to follow up a request for communication with the personal physician. This omission justifiably upsets the patient and interrupts the doctor's opportunity to provide continuing care. It may react directly to everyone's disadvantage by delaying the introduction of significant data relating to the patient's previous physical and mental condition.

Physicians should communicate with hospitals. Sending an individual to the hospital without adequate preliminary information to appropriate personnel is a reprehensible dereliction of proper patient care. In short, communication is vital, at all times and between all concerned, to achieve the utmost in better patient care and in efficient delivery of medical service in all areas. We should not be satisfied with anything less.

Henry D. Eckert



EDITORIALS

The Regional Medical Program of Metropolitan Washington

THE REGIONAL MEDICAL PROGRAM of Metropolitan Washington began its activities on January 1, 1967 following the approval of a planning grant made to the Medical Society of the District of Columbia.

Soon after the establishment of the National Program in late 1965, several exploratory conferences were conducted between representatives of the 3 medical schools, the D. C. Health Department, and the Medical Society of the District of Columbia in which discussion developed as to ways and means of participating in this program. It was agreed that we should have a Program and that our Medical Society should develop and submit a request for a grant for the Metropolitan Washington Area. A committee of the Medical Society, under the able chairmanship of Dr. Desmond S. O'Doherty, began its work in early 1966. Invitations were extended to the Medical Societies, the Health Departments, hospitals, voluntary agencies, and other health organizations of nearby counties of Montgomery and Prince Georges (Maryland), Arlington and Fairfax (Virginia), and Alexandria City to participate in and to constitute the Metropolitan Region. With the agreement and coöperation of all but the Prince Georges County Medical Society and the Prince Georges Branch of Southern Maryland Heart Association, the Region was thus established. Representatives of the coöperating organizations plus representatives of similar organizations and the medical schools of the District of Columbia comprise the advisory group to the Program. The final grant as developed and which received final approval by the National Institutes of Health as of November 30, 1966 is the result of the superior efforts of Dr. O'Doherty's committee and the coöperation of the physicians, medical schools and organizations in the Metropolitan Area.

Since I assumed the position of Coördinator for this Program, many physicians and citizens of the area have asked me questions such as, "What is this program? What are its objectives? and How will it affect the practice of medicine in Metropolitan Washington?"

This Program is the direct outgrowth of the activities and the recommendations of the President's Committee on Heart Disease, Cancer and Stroke and Public Law 89-239, which included many of the Committee's recommendations. This law, entitled "Heart Disease, Cancer and Stroke, Amendments of 1965," amending the Public Health Act by the addition of a "Title IX—Education, Research, Training, and Demonstrations in the Fields of Heart Disease, Cancer, Stroke and Related Diseases," was signed by the President in 1965. A National Advisory Council on Regional Medical Programs was established in Bethesda, Maryland to assist the Surgeon General of the U. S. Public Health Service in carrying out the provisions of this law.

At the present time more than 60 per cent of the geographic areas of the United States has active Regional Program Planning Grants approved by the Surgeon General, and if pending grants are approved over 90 per cent of the entire United States will be affected. These Program grants have been made for a period of 2 to 3 years, and during this period it is hoped that operational grants will be developed in most regions. Never before has such prompt response occurred to a Federal Health Program. Such response is probably accountable to the fact that its purposes and potential benefits involve both the physician and the patient.

The purposes of this law are so simply and clearly stated in the law that its exact language is quoted.

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

"The purposes of this title are—

"(a) Through grants, to encourage and assist in the establishment of regional coöperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases;

"(b) To afford to the medical profession and the medical institutions of the Nation, through such coöperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

"(c) By these means, to improve generally the health manpower and facilities available to the Nation, and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient care or professional practice, or with the administration of hospitals, and in coöperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies."

A few words as to how the purposes of the law and how the objectives of the Regional Programs are to be accomplished in Metropolitan Washington are considered appropriate at this time.

Broadly speaking, coöperative arrangements will consist in the exchange of information, ideas, and the improvement of working relationships between medical centers and schools, research institutions, community hospitals, and private physicians. In seeking to obtain these coöperative arrangements, the Program will work closely with all other agencies and individuals now concerned with health (particularly as relates to Heart Disease, Cancer and Stroke) including the Departments of Health in the District and neighboring counties of Maryland and Virginia, the organized Medical Societies of the area, the voluntary organizations of the area such as heart associations and cancer societies, the Health Facilities Planning Council, nursing organizations, and citizens' organizations. The law clearly states that "members of the public familiar with the need for the services provided under this program" shall be represented in the evaluation and approval of the activities of this Program. A broadly representative Advisory Group has been appointed to carry out this important responsibility.

What will the Program require to develop coöperative arrangements and to provide the medical profession and medical institutions with the opportunity of making available to their patients the latest advances in the diagnosis and treatment of Heart Disease, Cancer and Stroke?

It will require better organization of our present resources in both manpower and facilities and better communications. It must involve a sharing

of resources and the development of the ability to reach joint decisions as to what is best for the health of the metropolitan region as well as the development of capabilities to evolve new and creative approaches to complex problems which now confront us and which the individual medical center, institution or individual physician cannot reach at the present time. The Program will follow the established principle that "the sum of coöperative efforts will be greater than the individual efforts of organizations and individuals working separately." The Program will be designed and developed to deal with the diversity of needs of the Region. Neither initial planning activities or operational grants are to be concerned with projects that are solely related to an individual institution. The activities and projects must relate to the entire Region and have as the objective, "that of bringing the best of medical care in the categories of Heart Disease, Cancer and Stroke to all the people in the Region." It is the intent of the Regional Program as well as the National Program that programs must strive toward obtaining for each individual with heart disease, cancer and stroke, regardless of his economic status, race or creed, his right to have the best that medical science can provide in the diagnosis, treatment and prevention of disease in these categories. The provisions of this Title amending the Public Health Act plus other recent amendments under other Titles (Medicare, Hill-Burton, etc.) now provide the medical profession with opportunities to reach this goal.

Some have expressed the idea that the activities of the Regional Medical Programs will eventually socialize the practice of medicine. The proper implementation of the Regional Medical Programs, especially that of the Washington Metropolitan Region through the Medical Society, should be the best method of preventing socialized medicine. We must recognize the overt assertion of peoples throughout the world today, as well as in our own Metropolitan Area of Washington, "for equal treatment and rights." We of the medical profession cannot expect the public (those who need medical care) not to continue to assert their rights for equal treatment and the right to benefit from the medical resources of our great centers of research and medical practice. The architects and engineers of medicine (the individual and collective physicians) must design their professional services to problems peculiar to the region and needs of the patient and not to just their own concepts of what is ideal and perfect for their profession.

The Washington Metropolitan Area is ahead of many regions of the United States in its coöperative efforts in medicine. Our 3 medical schools, through the Deans' Committee, have greatly advanced medical education, research, and patient care in the Veterans Administration Hospital, the District of Columbia General Hospital, and in community hospitals. They are willing to extend their efforts and are important backers of this Program. The Medical Societies, Health Departments, and practicing physicians have demonstrated their abilities to coöperate most effectively in other health matters, to wit, the recent campaign of total polio vaccination. The voluntary health organizations, notably the Heart Associations of Washington, Northern Virginia and nearby Maryland, have been performing a superb job in promoting continuing medical education and introducing new concepts in patient care to the region in the category of heart disease. The Cancer Societies have performed a similar service in their field. The area of stroke has not had as effective a catalyst. This category of disease offers the greatest challenge to the Regional Program

and therefore will receive the highest priority of attention.

Medical schools, research institutions, and hospitals have accepted as an established fact that they cannot perform their primary functions of education, medical research, and patient care and provide all those in need of medical care with the fruits of their work (the highest quality of medical care which this research, education and experience can provide) unless financial aid is given to both medicine and the public. Federal and state help have been accepted as the necessary aids. Partnership in Federal and private effort therefore must be accepted as a means of providing the service of the physician to the public. The Regional Program with the full coöperation and counsel of the Medical Society can best provide a partnership in which the best interests of the patient and the physicians and the desired patient-physician relationship are maintained.

As the Program develops, subsequent articles of interest to members of the Medical Society will appear in the *ANNALS*.

THOMAS W. MATTINGLY, M.D.
*Coördinator, Regional Medical Program
of Metropolitan Washington*

When Is a Consumer an Expert?

ANOTHER PRESIDENT'S ADVISORY COUNCIL has met and reported "strongly" in support of "group practice as an alternative to private insurance and solo fee-for-service arrangements in the interest of higher quality medical care." This time it was a "Consumer Advisory Council" making such a recommendation. If this is an example of Mr. Johnson's Advisory Groups, all I can say is, this is hardly the proper approach to an evaluation of the quality of medical care or even as to the organization of medical practice.

First, aren't we all consumers, and surely consumers of medical care? But in considering medical care for us consumers, this was a strange group, consisting of 3 economists, 2 home economists, and a business administrator, public relations director, politician, attorney general, columnist, consumer counsel, and public health official. Not a single person, except the last, Dr. W. Palmer Dearing, formerly of the U. S. Public Health Service and presently Executive Director of Group Health Association of America, has had any experience in

providing medical care or in its administrative problems.

As Dr. Dearing knows, I interested the AMA in studies of group practice and union health centers many years ago and worked closely and impartially with those groups. But to have a Presidential Advisory Committee with so little know-how come out with such sweeping recommendations makes one wonder at someone's wisdom or lack thereof. Economists and other lay experts should limit their professional opinions to their own special fields of interest and leave recommendations on medical care, especially as to promoting quality, to those with some experience and knowledge of that subject.

If this is the President's pattern, I should like to serve with others equally unknowledgeable in such affairs on a Consumer Advisory Council on Labor. All of us are consumers of labor's efforts, and I am sure 12 people such as I could come up with equally brilliant recommendations—and equally questionable—to labor leaders.

G. W. C.

"The Optimal Utilization of Medical Womanpower"*

MARION B. FOLSOM, LL.D.†

YOU HAVE CHOSEN a most timely topic for your discussions, "The Optimal Utilization of Medical Womanpower." It is most significant for our community and certainly for other communities in other countries. The need for greater womanpower and greater manpower in the field of medicine and health care has been rapidly expanding in recent years, due to the growth in population and the great advance in medical science and practice. This advance has been accompanied by more complicated processes and equipment, which require more and better trained personnel at all levels, and also by rapidly rising cost.

Those in key positions in this field are faced with the extremely important task of recruiting, training and upgrading large numbers of people to provide high-quality care. Because of the current short supply and the high costs, every effort must be made to obtain the maximum utilization of personnel.

In this country over 3 million persons—between 4 and 5 per cent of the total civilian labor force—are engaged in the provision of health services. About 1,800,000, or 60 per cent of these workers, are women. The proportion of women workers varies by occupation, but like women workers generally they tend to be employed at levels lower than for men. In 1960 only 7 per cent of the physicians and 1 per cent of dentists were women. On the other hand, women constitute 85 per cent of the medical technicians as well as the overwhelming majority of nurses, social workers, laboratory workers, dental hygienists, assistants, aides, and clerical employees. Our current forecasts indicate that an increasing percentage of the total labor force will be women. At present over half of the women in the 45-54 age bracket are in paid employment, and the number of women beyond 45 will increase considerably in the next decade.

One reason for the relative scarcity in the skilled positions in medicine and health service is the fact that while the number of women with high-school

and college education has increased considerably in recent years, the ratio of graduate degrees to baccalaureate degrees has not risen. This is the reverse of what has happened with men.

In regard to the proportion of women physicians, the United States is considerably behind many European countries. Here the long and expensive preparation, the years of postgraduate work, and the difficulty of combining the responsibility of a home with the practice of medicine have kept the number low. In comparison with the 7 per cent of women doctors in this country, the latest available information indicates that in Austria 18 per cent of doctors are women, 15 per cent in Denmark, 26 per cent in Finland, 20 per cent in Germany, 13 per cent in Sweden, 33 per cent in Israel, and 30 per cent in the Philippines.

We are making some progress in the United States, however. The number of women accepted by the medical schools has increased from 4 per cent in 1930 to 9 per cent in 1965. We are still considerably behind other countries—only 7.3 per cent of the total number of medical degrees awarded in 1965 were given to women, compared with 12 per cent in Canada and 24 per cent in Great Britain.

Consideration, too, has been given in this country recently to increase the employment of women generally. The President's Commission on the Status of Women made a number of suggestions, such as facilitating part-time study, more flexibility in the admission policies, residence requirements, academic prerequisites of universities, and more opportunity for continuing education. Also, increased emphasis must be given to scientific education for women if they are to make their full contribution to the health services.

While the total population in this country has increased by $2\frac{1}{2}$ times since 1900, the number of physicians has only doubled in that time, but the number of professional or college-trained health personnel of all kinds has increased 6 times. We are now depending upon doctors trained in foreign countries to maintain our present ratio of 150 physicians for every 100,000 population. To maintain this ratio and to provide physicians for service in other countries we shall have to greatly expand our existing schools and add new schools. Fortunately, the Federal Government has recently made

* Statement made before the Tenth Congress of the Medical Women's International Association in Rochester, N. Y., July 10, 1966.

† Formerly Secretary of the United States Department of Health, Education, and Welfare; office: 343 State Street, Rochester, N. Y. 14650.

substantial funds available for this expansion. Grants are made on a basis of \$2 for each \$1 furnished by an existing medical school if the school increases its student body.

Because of the high cost of a medical education and the long period required before entering practice, we have found that a relatively small percentage of medical students come from families of low or moderate income. While a large number of fellowships are available for other graduate students, until recently few scholarships were available for medical students. Fortunately, legislation was recently passed which will provide scholarships on the basis of merit and need for a substantial portion of the medical school students, with the selection to be made by the school. Loans have also been made available on a low-interest basis and liberal terms of repayment. By these various methods we hope to maintain our current ratio of physicians and provide some doctors for other countries.

The problem is complicated because of the increased demand for physicians in public health, industry, and in research work. Fellowships for medical research work have been available for many years through the National Institutes of Research. There should be a higher percentage of women in this medical research field.

About 70 per cent of active physicians are now full-time specialists. This has greatly increased the need for teamwork and has resulted in a rapid increase in group practice. In 1962 13 per cent of all physicians in private practice were engaged in group practice. The association of physicians in group practice facilitates the effective use of health manpower in several ways—the freeing of physicians from administrative and clerical detail, and the joint employment of registered nurses, nursing aides, X-ray and laboratory technicians, social workers, medical record librarians, therapists, and aides of all sorts. The sharing of capital costs for building and equipment makes available better facilities and a wider range of equipment. There is also the advantage that members of the group can arrange to have more time off for continuing education and refresher courses. There is also evidence that the physician in group practice can handle a larger patient load.

The President, in his Health Message of 1965, recommended comprehensive group practice as the means of stretching the supply of medical specialists and widening the range of medical services provided in communities, and he recommended that loan funds be made available to assist the

voluntary associations in constructing facilities for group practice.

As is well known, there has been a great increase in the number of allied health workers in recent years to assist the physician. In 1900, for every 100 physicians there were 60 health professionals trained in other fields. By 1960, for every 100 physicians there were 370 other professionally trained health personnel. The ratio of physicians to total health services personnel was about 1 to 10. This enormous growth in specialized health-related personnel compensates for the relatively short supply of highly trained personnel. Not only do all these allied health workers save the time of the physician, but many of these highly trained health workers have a unique competence of their own in their specialty which may be superior to that of the physician or other professional.

The greater use of auxiliary personnel can be achieved by fresh and continuing scrutiny of all health functions to determine which ones can be allocated to the auxiliary personnel. Following the practice in industry, a job analysis of all positions can be very effective. This consists of a detailed study of the health services and the division of specific functions into component tasks so that the workers with a limited range of skills can be used to increase the productivity of highly skilled personnel. Better organization, supervision, and better in-service training are also needed.

As for the great numbers of women who will be needed in the health field below the professional group, we are looking primarily to the 2-year colleges to train the various medical technicians and nurses.

In this country we are concerned particularly with the existing shortage of registered nurses. To meet the demand in the future we shall have to greatly expand our baccalaureate degree and graduate school programs for teachers and supervisors. For some reason we are not attracting into these programs as high a percentage of high-school graduates as we should. We must provide more scholarships for undergraduate schools of nursing and should expand our counseling and guidance work in the high schools. The health profession must consider it its responsibility to see that the counseling and guidance people are fully informed as to the various occupations in the medical and health fields.

For the present, however, our greatest source of supply, particularly of nurses, is the large number of persons previously trained but not now working. Some measures which have been successful in attracting nurses back into practice have been the

use of refresher courses, placing them in positions close to their homes, convenient working hours, and more provision for part-time work.

While many of these efforts will provide additional personnel in the future, the most immediate assistance must come from the upgrading of existing personnel, and this, I take it, is one of the principal subjects for discussion in your Congress. These are the persons who are already motivated to work in the field of health services and who, with increased preparation, could make an increased contribution. Every encouragement and assistance must be given to persons in many branches of health services who have the capacity and the interest to work at more highly skilled occupations.

The National Commission on Community Health Services has recently completed a 4-year study of community health needs, and I had the privilege of presenting its report to President Johnson. One section of the report relates to the "Effective Utilization of Medical and Health Personnel." The following are some of the principal recommendations made by the Commission:

"Effective utilization of available health personnel will reduce the current manpower shortage, and continuous evaluation of use of manpower, accompanied by necessary changes and retraining, will provide additional manpower for existing and new health services. However, to provide comprehensive community health services in the next decade will require an unprecedented effort to recruit, educate, and train additional manpower for the health team. Such an effort should be intensive, planned, and continuous, and should emphasize teamwork among all levels of health manpower.

"Every community must have available the skills and techniques of many kinds of health personnel. These needs are increasing in terms of numbers of people as well as kinds of skills required. The wide range of manpower for environmental and personal health services includes not only engineers and physicians but many varieties of laboratory technicians, dentists, nurses, pharmacists, physical, occupational and speech therapists, homemakers, health aides, social workers, psychological and vocational counselors, and nutritionists.

"To deliver comprehensive health care, all members of the health team must work together, with each member consistently contributing his most highly developed skills and recognizing others' skills and particular contribution to the health of people. They must, at a minimum, coördinate their work.

"The Commission recommends:

"That additional public and private funds be devoted to experiments and demonstrations to increase the productivity of all types of health personnel and improve the range and quality of service.

"That, in order to attract and retain health personnel, wages and salaries be made comparable to those received by people performing similar jobs in the community. . . .

"That research in utilization studies be conducted to delineate the different functions required to meet the needs of patients and to determine the necessary level of training to perform these functions. . . .

"That special emphasis be given to securing and preparing top-level health-service administrators for responsible positions of leadership in health. . . .

"That concerted efforts be made to attract secondary school students to health careers by improving counseling, work experience in health facilities, and expanded work-study programs. . . .

"That vigorous efforts, voluntary and governmental, be undertaken to increase the supply of professional social workers in medical and health services. . . .

"That qualified candidates for training in a health career receive the financial assistance they need from government, industry, or other sources, in the form of grants, scholarships, or loans, to complete their training. . . .

"That efforts be intensified to expand accredited nursing education programs which prepare persons to become registered nurses with college degrees, through baccalaureate programs; registered nurses without college degrees, through 2-year colleges or hospital diploma programs; and vocational or practical nurses, through vocational school or hospital programs.

"That, since the 2-year community colleges can play an important role in training auxiliary health personnel, present programs for health occupations in junior colleges should be expanded as rapidly as is consistent with quality. Curriculums in 2-year colleges should be designed, insofar as possible, to permit additional education at a later time for those students who want to continue their health career development. . . .

"That educational institutions offering health training should coöperate actively with professional associations and official and private agencies in developing programs of inservice training and continuing education for allied health services personnel."

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Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

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Health Dept. Notes

Heart Disease

HEART DISEASE is the number 1 cause of death in the United States today. Each year approximately 1 million Americans die of cardiovascular diseases, representing about 55 per cent of all deaths in the Nation. In addition, it is estimated that approximately 15 million Americans have heart disease and about 13 million more are suspected of having heart disease.

Statistics in the District of Columbia reflect national trends. In 1964 there were 9,089 deaths. Of these, 4,241 were attributed to cardiovascular diseases.

Medical research has made tremendous strides during the last 15 years toward the prevention and treatment of some of these diseases.

In spite of intensive research efforts and the accumulation of vast quantities of scientific knowledge, coronary heart disease remains the number 1 cause of death in the adult population of the United States, often striking down those in the most productive years of life.

It is imperative that research efforts be intensified and accelerated if these diseases are to be brought under control. In addition to the development of new knowledge through research there is a pressing need for application of the results of research so that they may benefit the public.

Some of these principles have been incorporated into guidelines for development of Regional Medical Programs for Heart Disease, Cancer, Stroke, and a planning grant has already been awarded to the District of Columbia. Emphasis repeatedly has been placed on a regional approach to planning and development, and in particular the involvement of regional resources such as state and local health departments, health professional schools, research institutions, hospitals, foundations, and voluntary organizations.

The President's Commission on Heart Disease, Cancer, and Stroke emphasized in its report that goals "can only be accomplished by a coordinated national program to overcome shortages where they exist, by stronger educational efforts directed toward the professional and general public concerning the prevention and treatment of cardiovascular diseases, and by development of properly distributed community resources sufficient to provide excellent medical care from the onset of

symptoms of heart disease to the patient's return to community life."

The District of Columbia is unusually rich in the total resources available to meet the challenges of heart disease. The 3 university hospital centers, Howard University-Freedmen's Hospital, Georgetown University Hospital, and George Washington University Hospital, provide the leadership in research, teaching, and patient care to control heart disease.

The D.C. Department of Public Health plays a major role in heart disease control activities, fulfilling the role of both state and local public health agency. D.C. General Hospital, largest of the District hospitals, is affiliated with all 3 medical schools and provides the major source of medical hospital care to the indigent of the District. Facilities at Glenn Dale are available to treat the chronically ill, many of whom have cardiovascular diseases.

The Department provides outpatient cardiac evaluation and care at the Northwest Central Clinic, clinics at the Arthur Capper and Garfield Terrace public housing apartments, and in its Crippled Children's Program.

The concept of home care in the control of chronic diseases has been receiving increasing national attention. The Department's Home Care Program provides a comprehensive coordinated program in the patient's home. This is accomplished by a multidisciplinary team of health experts for approximately 400 patients. Three of every 4 of these patients have 1 or more cardiovascular problems. In addition, more than 100 of our public health nurses provide professional home nursing care to many other patients with cardiovascular disease.

The importance of health screening tests to identify persons with early asymptomatic disease has been emphasized. The Department's multiphasic screening program, conducted at the Southwest Health Center and in the mobile screening unit, tests about 20,000 persons per year.

Our records show that abnormal cardiovascular tests occur as follows: high blood pressure 25 per cent, abnormal EKG 20 per cent, abnormal heart sounds 10 per cent, and radiological evidence of cardiac enlargement 8 per cent.

Tests for blood cholesterol and forced expiratory spirometry will be added in the near future. This may provide information about 2 additional parameters of cardiovascular disease. Electrocardiography and spirometry are automated and analyzed by computer. All persons with abnormal findings are referred to their private or clinic physician for

follow-up, and patient-physician contact is confirmed before the case is considered closed.

Through its Rheumatic Fever Secondary Prophylaxis Project, the D. C. Department of Public Health is attempting to reduce rheumatic fever recurrences through the use of prophylactic drugs. A low-cost drug program for nonindigent patients has recently been added to the Rheumatic Fever Project.

Deaths from coronary heart disease in this country exceeds $1\frac{1}{2}$ million persons a year, and efforts toward a coronary heart disease control program have become the highest priority among many health experts. In addition to the need for acceleration of research into the fundamental pathophysiology of coronary atherosclerosis, there is an equally great need to apply presently available knowledge to control heart disease.

Control activities in this field, as developed by the American Heart Association and the U. S. Public Health Service, include: (1) coronary risk factor control, (2) development of hospital coronary intensive care units, and (3) programs for training in cardiopulmonary resuscitation.

Coronary risk factor control, an attempt to prevent or delay coronary heart disease by identifying and treating conditions known to increase risk of coronary atherosclerosis, has not received sufficient attention as a public health consideration either in the District of Columbia or the Nation. Development of coronary care units, on the other hand, has been rapidly accepted, and almost all of the District's hospitals have coronary care units or are planning for them. The Washington Heart Association is in the process of evaluating community needs for training programs in cardiopulmonary resuscitation for physicians, nurses, rescue personnel, and others.

The D. C. Department of Public Health and other District resources are already involved in many community activities consistent with the report of the President's Commission on Heart Disease, Cancer, and Stroke. But this is only the beginning. To effectively meet the challenge of heart disease it is imperative that we improve and expand present activities in a coordinated effort among all health resources.

MURRAY GRANT, M.D., D.P.H.
D. C. Director of Public Health

Dr. Walsh Honored by Reader's Digest Foundation

PROJECT HOPE is the recipient of the 1967 Institute of International Education-Reader's Digest Foundation Award for distinguished service in international education. Dr. William B. Walsh, founder and President of Project HOPE, accepted the citation and a \$1,000 check at an Awards Dinner held in the Institute's headquarters on United Nations Plaza in New York City, January 16. A distinguished group of educators, business executives, statesmen, and civic leaders attended the event.

The complete text of the citation to Project HOPE follows:

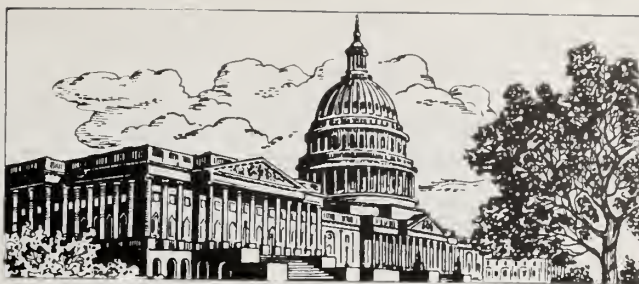
"To Project HOPE, an independent, nonprofit organization, for its valuable humanitarian contribution to international understanding, the Institute of International Education and the Reader's Digest Foundation present their award for distinguished service.

"During its 5 medical missions, Project HOPE, a 15,000-ton former Navy hospital ship that stands for Health Opportunity to People Everywhere, has brought good will and understanding, as well as modern medical techniques, to Indonesia and South Vietnam, Peru, Ecuador, Guinea and Nicaragua.

"Founded in 1958 by Dr. William B. Walsh, in order to teach self help to developing countries, the S. S. HOPE has become 'America's greatest good will ambassador abroad.' Its purposes are: to share American medical knowledge and practice with medical personnel in other nations, and to treat needy patients. In 6 years, HOPE teams have trained more than 3,000 physicians, dentists, and paramedical personnel; treated more than 100,000 persons; conducted some 8,000 major operations; and vaccinated more than 1 million people.

"HOPE maintains activities in all areas that it has visited. The permanent medical staff of the S. S. HOPE serves for token compensation and is supplemented by volunteer physicians, surgeons and dentists who serve for 2-month periods on a rotating basis. In addition to classroom instruction and on-the-job training aboard the ship, HOPE teams work in shore-based clinics, hospitals and medical schools, all with the cooperation of local medical organizations.

"For its compassionate dedication to mankind, for literally bringing hope to thousands of needy people, and for having become a symbol of American international good will, IIE and the Reader's Digest Foundation are proud to salute Project HOPE."



NEWS & PERSONALS

Summary of Executive Board Actions

Proceedings of January 23 Meeting

Dinner for the Board members was served at 7:00 p.m. in the Exhibit Hall of the Medical Society. Dr. Karl C. Corley, Chairman, presided at the meeting. Present were Drs. Frank S. Bacon, C. Willard Camalier, Jr., Robert J. Coffey, Henry D. Ecker, Raymond T. Holden, Margaret M. Kenrick, William S. McCune, Edward W. Nicklas, Paul R. Wilner, and Mr. George W. Cooley, Secretary. The meeting was called to order at 7:40 p.m.

The minutes of the December 12, 1966 meeting were approved as mailed.

Committee Meetings: The Secretary reported the following committees had met since the last meeting of the Board:

- | | | |
|----------|----|---|
| December | 8 | Ad Hoc Committee on Licensure |
| | 13 | Committee on Public Information and Education |
| | 15 | Medical Bureau Committee |
| | 20 | Grievance Committee |
| January | 4 | Fee Review Committee |
| | 4 | Air Pollution Committee |
| | 9 | Program Committee, Annual Scientific Assembly |
| | 10 | Committee on Medicolegal Problems |
| | 10 | Child Welfare Committee |
| | 12 | Committee on Communicable Diseases |
| | 18 | Board of Credentials |
| | 19 | Committee on Environmental Health |
| | 19 | Dinner meeting of 1967 Committee Chairmen |
| | 20 | Program Committee, A. S. A. |

Board of Credentials: The following actions were taken on recommendations made by the Board of Credentials:

Active Members

Theodore R. Bledsoe, 1801 Eye Street, N.W.
 John L. Chamberlain, 4201 Cathedral Avenue, N.W.
 Charles Francis Colao, 1332 Ridge Place, S.E.
 Straty H. Economon, 3000 Connecticut Avenue, N.W.
 Norman Francis Fee, 2520 L Street, N.W.

Richard J. Feinberg, 1520 16th Street, N.W.
 Robert Garfield Riddick, Freedmen's Hospital
 Lowell Wayne Schwab, 1835 Eye Street, N.W.
 James Douglass Shepperd, 50 Irving Street, N.W.
 Larry Wayne Stanton, George Washington Hospital
 Olden Edward Stinson, St. Elizabeths Hospital
 Henry Sindos Wicker, 6218 Georgia Avenue, N.W.

Associate Members

Arnold Jay Kaplin, 5021 Seminary Road, Alexandria, Va.
 Francis LaVerne Land, Independence Avenue and 4th Street, S.W.

Resident-Intern Member

Siavash Samandar, D. C. General Hospital

Transfers

Active to Life: Harry F. Anderson, Morris Chase, Ronald A. Cox, Paul J. Ewerhardt, Charles W. Harnsberger, Maurice H. Herzmark, George R. Huffman, Elmer Klein, and Edgar E. Quayle

Active to Associate: Rowland H. S. Bedell, Francis J. Crilley, Jr., Leo William Dufault, Thomas H. Gresinger, John T. Lord, Robert E. McCullough, and Richard M. Schisgall

Associate to Active: Ramon Angeles, Jr.

Resident-Intern to Associate: Don Robert Johnson

Reinstatement

Active: Wai Lin Wong

Resignations

Active: Carl M. Hasegawa, David Allen Hiles, James M. Hollister, William F. Sheeley, Charles D. Shields, Richard T. Van Orden, and Edwin H. Weitzen

Associate: Salo Albini, John B. Coates, Abe M. Cohen, Paul Haak, Ejnar Vinten Johansen, George Kriegman, Irving L. Marks, Richard H. Meredith, Robert H. Mitchell, John D. Porterfield, and Edward D. Soma

The following resignations were approved with prejudice until 1966 dues are paid:

Associate: Arthur T. Davidson, Mor J. McCarthy, James M. Whitlock, and Ralph Weilerstein

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Ephedrine HCl.....	16 mg.

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The dues of Dr. Alfred E. Brigulio (Active) were remitted because of disability.

Relative Value Study Committee: It was voted to approve 3 recommended changes in the Relative Value Scale made by this Committee and to refer a fourth back to the committee for further consideration.

Medical Bureau:

A. *Yellow Pages listing:* It was voted to refer this matter to the Committee on Specialty Classification with the following instructions:

1. Investigate how the listing of non-Society members might be accomplished without legal complications.

2. Check with the District's Corporation Counsel concerning the possibility of obtaining an opinion which would strengthen the Society in making any agreement with the Telephone Company in this matter because such listings in the Yellow Pages of the Telephone Directory would be in the public's interest.

3. Check the potential cost of such listings to members who choose to participate.

4. Check methods of controlling the listings so as to conform with the guidelines set forth by the AMA.

B. *Referral list used by the Bureau:* It was voted to send a new questionnaire to the membership to bring the referral list up to date, with a notation that this is not to be used for emergency calls but is to be used in providing the names of physicians to new families that come to the area, and to make it clear to members that, as a public service, a member's name will be listed unless he or she indicates a desire not to be listed.

Committee on Communicable Diseases: Dr. Thomas E. Reichelderfer and Mr. John J. Irvin presented a report from this Committee concerning the start of a program to eradicate measles. It was voted to coöperate with the Health Department in this program and to urge the membership to assist in the program by vaccinating as many of their own patients as possible.

Miscellaneous Business

The Health Department's new proposal under Public Law 89-97, Title XIX, has been completed and it was voted to authorize the President to create an ad hoc committee to consider this proposal.

The new law having to do with Community Planning, primarily through Health Departments, seems to overlap with Public Law 89-239 and it

was agreed that the President deal with this particular program as seems appropriate.

Arrangements will be made to renegotiate fees with the Contracting Officer of O. D. M. C. with the coöperation of the area's Medical Societies.

The proposed Directory of Members using pictures has proved to be too costly and consideration is being given to coöperating with a local firm now publishing a medical directory.

The special Explorer Boy Scout group concerned with medicine and allied health professions has met in the building and it was voted to sponsor this group.

Approval was given to a recommendation from the Editor of the *MEDICAL ANNALS* that Captain George H. Tarr, Jr., MC, USN, succeed Captain Rufus J. Pearson, Jr., MC, USN, as Consulting Editor, representing the U. S. Naval Hospital.

It was voted to make a contribution which will assist in financing a special page in the *Washington Daily News* as a salute to Howard University on its 150th Anniversary Year.

It was agreed to coöperate with WETA-TV (Channel 26) in a 26-week series on medical subjects.

The President reported that the Liaison Committee with the Woman's Auxiliary will consist of Dr. Nicklas, the present Chairman, Dr. Wilner, and Dr. Coffey.

There being no further business, the meeting was adjourned.

Meetings

The Department of Psychiatry of Georgetown University School of Medicine is introducing a **series of postgraduate seminars** on the use of current psychiatric techniques by the medical practitioner. The aim of these seminars is to assist the clinician in identifying and managing various emotional difficulties in his patients. Discussion will focus primarily on the patients of the participating physicians and will be supplemented by patient interviews, discussion of current literature, and case presentations by the seminar staff.

The seminars will be held weekly for 10 weeks beginning March 28, on Tuesday evenings, from 7:30 to 9:30 at Georgetown University Hospital. Fee for the entire series is \$50.00. To maintain a high quality of individualized instruction, regis-

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tration will be limited to 15 physicians. The program is acceptable for 20 credit hours by the American Academy of General Practice.

Staff members from the Department of Psychiatry will be: Dr. Donald F. Bogdan, Assistant Professor and Director of Residency and Postgraduate Training; Dr. William E. Flynn, Assistant Professor and Director of Consultation—Liaison Service; and Dr. Louis F. Rittelmeyer, Jr., Assistant Professor and Director of Psychiatric Consultation to the Medical Diagnostic Clinic. Further information may be secured by contacting one of these staff members.

The 15th Annual Clinical Meeting of the American College of Obstetricians and Gynecologists will convene in Washington at the Washington Hilton Hotel, April 17-20. Featured will be a debate of the resolution, "That there is a role for the nurse-midwife in the United States," scheduled for Wednesday afternoon, April 19, which will be moderated by Dr. Allan C. Barnes of Baltimore. Other panel discussions will concern Family Planning, Drugs in Pregnancy—the Physician's Responsibility, Amniocentesis and Amniotic Fluid, and Therapeutic Abortion.

There will be 8 correlated seminars, including both gynecologic and obstetric subjects.

A number of authorities selected for their contributions to various areas of obstetrics and gynecology will comprise the faculty for 11 Postgraduate Courses during the Clinical Meeting.

The Howard F. Kane-A. F. A. King Honorary Society of George Washington University School of Medicine will celebrate its 30th anniversary in Washington during the Clinical Meeting. Fellows who are graduates of the University and were members of the Society during their student days are asked to contact Dr. Samuel M. Dodek, founder and faculty advisor of the Society, at 1730 Eye Street, N.W., Washington, D. C. 20006.

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The Medical and Chirurgical Faculty of the State of Maryland is holding a 3-day **annual meeting** at The Alcazar in Baltimore, April 19-21. The first scientific session will open on Wednesday afternoon, April 19. Guest speakers from Washington and vicinity will include Drs. Ervin A. Gombos and Richard E. Palmer, of George Washington University; Dr. Walter L. Henry, of Howard University; Dr. Paul P. Carbone, of the National Cancer Institute; Dr. Philip R. Lee, of the Department of Health, Education, and Welfare; and Dr. John W. Walsh, of Georgetown University.

All Washington physicians are invited to attend. There is no registration fee. Credit will be given by the American Academy of General Practice.

A detailed program may be secured by writing to Dr. James B. Brooks, Chairman of the Committee on Program and Arrangements, 1211 Cathedral Street, Baltimore, Md. 21201.

A Cardiovascular Pathology Course will be held at the Armed Forces Institute of Pathology in Washington, D. C., May 1-5. The course, intended for interested clinicians, radiologists, and pathologists, will consist primarily of a series of lectures delivered by staff members and visiting physicians on both congenital and acquired heart diseases. Attendance is limited to the first 300 applicants. There is no fee for the course. Applications should be sent to the Director, Armed Forces Institute of Pathology, Washington, D. C. 20305. A program will be furnished upon request.

The Washington Society of Pathologists will be host at a **joint meeting with the Baltimore Pathological Society** on Saturday, May 13, at the National Institutes of Health in Bethesda, Md. The meeting, to begin at 9:30 a.m., will be held in the main auditorium on the first floor of Building 10. The morning session will consist of individual contributions by members of the Societies. The afternoon program, on the subject, "The Application of Computers and Automated Techniques to Clinical Pathology," will be presented by members of the Clinical Pathology Department of NIH. Luncheon will be served in the Officers Club of the U. S. Navy Hospital, across the Rockville Pike from NIH.

The American Medical Association is sponsoring a **National Congress on Environmental Health Management** to be held in New York City, April 24-26, at the Hotel Americana. Fur-

ther information about the Congress may be obtained from the Department of Environmental Health of the AMA, 535 North Dearborn Street, Chicago, Ill. 60610.

General News

A new organization, **The American Society of Nephrology**, has been organized for the purpose of advancing the knowledge of nephrology. The organization has received applications for membership from 1,500 physicians and scientists in Canada, Mexico and the United States. By-laws state that membership is open to any person with a medical degree, Ph.D., or its equivalent "who has demonstrated a major and continuing interest in nephrology."

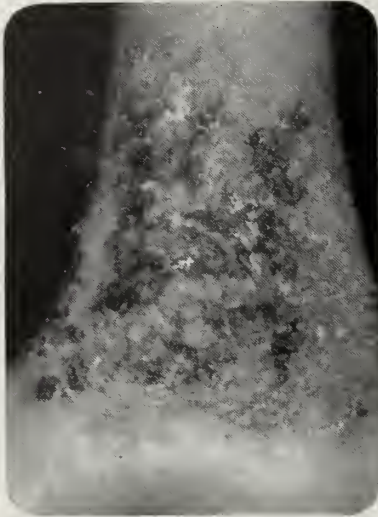
The founding group was drawn from the Scientific Advisory Board of the National Kidney Foundation and the Renal Section of the Council on Circulation of the American Heart Association. The first officers are: Dr. Neal S. Bricker, of Washington University, St. Louis, President; Dr. Donald W. Seldin, of the Southwestern Branch, University of Texas, Dallas, President-elect; and Dr. George E. Schreiner, from Georgetown University School of Medicine, Secretary-Treasurer. The office of the Society is being set up in the Medical-Dental Building at Georgetown University.

The first annual scientific meeting will be held in the Biltmore Hotel, Los Angeles, October 18 and 19, 1967.

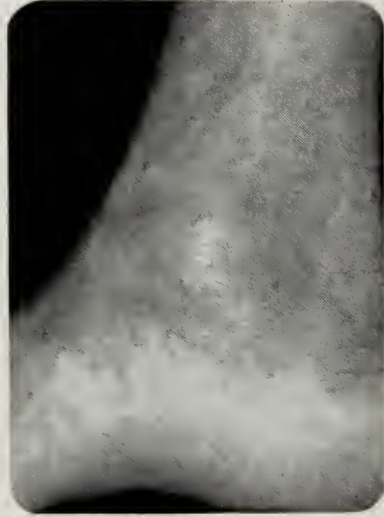
The Medical Council of the Metropolitan Washington Area at its meeting, December 7, elected Dr. Robert L. Guillaudeu, of the Fairfax County Medical Society, President for 1967. Dr. Henry D. Ecker, President of the Medical Society of D. C., is the new Vice President, and Mrs. Mary B. Peirano, of Fairfax County Medical Society, Secretary-Treasurer.

Dr. Thomas H. Hayes has been appointed **Secretary of the Council on Drugs of the American Medical Association and Director of the Department of Drugs**. He succeeds Dr. Jean K. Weston, who is now Vice President for Medical Affairs of the National Pharmaceutical Council. Dr. Hayes, who assumed his new position on December 1, has served as Assistant Director of the AMA Department of Drugs since 1965.

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Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side

effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyoderma will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

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Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in pa-

tients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.



Dosage: 1½ to 3 grains at bedtime.

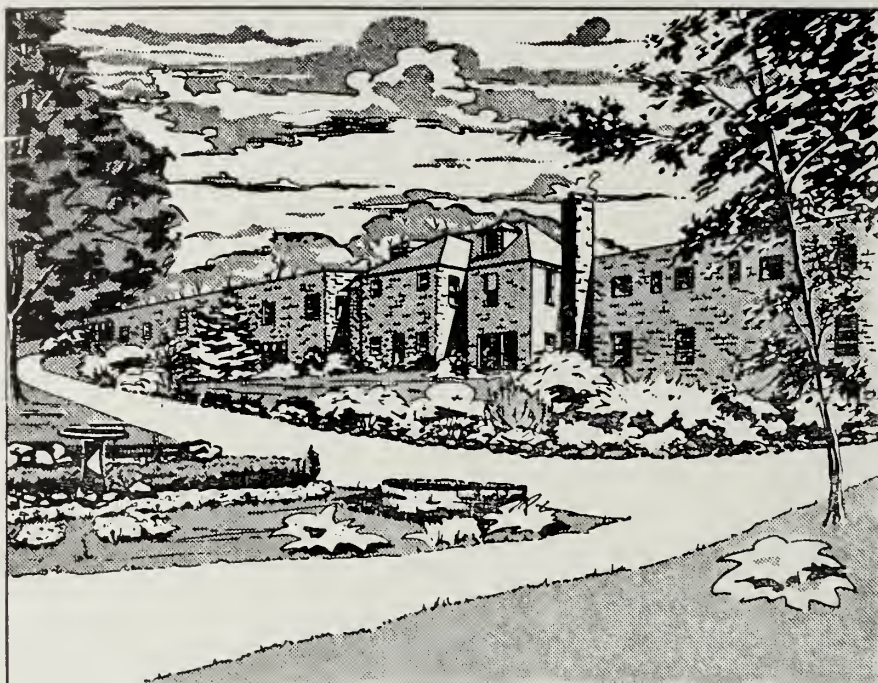
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The new and revised edition of "**Medical and Surgical Motion Pictures**" is now available from the American Medical Association. More than 1,000 new film titles have been added in the new edition of the catalog, bringing the total film listings to more than 4,000. Copies may be secured without charge from the Medical Motion Picture Section, Department of Postgraduate Programs of the AMA, 535 North Dearborn Street, Chicago, Ill. 60610. 

Georgetown University School of Medicine has received a research grant of \$76,737 from the John A. Hartford Foundation, Inc. of New York City to study methods of measuring vitamin D in body fluids. Drs. C. Robert Meloni and John Canary, of the Division of Endocrinology and Metabolism, will direct the studies.

The D. C. Medical-Dental Bowling League has elected the following officers for 1967-68:

Dr. Eugene J. McDonald, *President*; Dr. Claude J. Shiffet, Jr., *Vice President*; and Mr. James Carter, *Secretary-Treasurer*.

The Annual Banquet will be held on Thursday, May 11, 1967 at the Brook Farm Restaurant.

The Medical Staff of the Morris Cafritz Memorial Hospital has elected new officers for 1967. They are: Dr. Frank S. Pellegrini, *President*; Dr. Francis P. Chiaramonte, *Vice President*; and Dr. J. Sanford Young, *Secretary-Treasurer*.

There are now more than 270 area physicians, representing all branches of medicine, on the medical staff. Department chairmen are as follows:

Anesthesiology—Dr. Kermit Hanson
Dermatology—Dr. Charles Aaronson
Emergency Department—Dr. Olav H. Alvig
General Practice—Dr. Thomas F. Cleary
General Surgery—Dr. Bernard F. Peacock
Internal Medicine—Dr. Frank J. Talbot
Neurology—Dr. Charles E. Edwards
Neurosurgery—Dr. Stacy L. Rollins
Obstetrics-Gynecology—Dr. Robert C. Hecker
Ophthalmology—Dr. Michael Radulovic
Oral Surgery—Dr. Vincent Palumbo
Orthopedic Surgery—Dr. John T. Lynn
Otolaryngology—Dr. Sidney I. Jaffee
Pathology—Dr. Masud Homayouni
Radiology—Dr. Louis Wener
Pediatrics—Dr. Leroy E. Hoeck
Psychiatry—Dr. Oswald Todd
Urology—Dr. Francis P. Chiaramonte

Five medical societies in nearby counties have elected new officers to serve during 1967. **Alexandria City (Va.) Medical Society** installed its officers on December 15. They are:

Dr. M. Hayne Kendrick, *President*; Dr. James B. Gilbert, *President-elect*; Dr. Charles E. Law, *Vice President*; Dr. Bruce L. Gilmore, *Secretary*; and Dr. Roy S. Gillinson, *Treasurer*.

Serving Arlington County (Va.) Medical Society:

Dr. Gerald J. Fisher, *President*; Dr. Robert E. Byrne, *President-elect*; Dr. Robert H. Gruver, *Vice President*; Dr. Arthur I. Sims, *Secretary*; and Dr. Thomas L. Kelly, Jr., *Treasurer*.

Officers for Fairfax County (Va.) Medical Society:

Dr. Edward Gallagher, *President*; Dr. C. Barrie Cook, *President-elect*; Dr. Mario Espinola, *Vice President*; Dr. Thomas M. Wright, *Secretary*; and Dr. Donald S. Thorn, *Treasurer*.

In nearby Maryland, the officers for **Montgomery County Medical Society** are:

Dr. John O. Robben, *President*; Dr. Marvin I. Mones, *Vice President*; Dr. Gordon Smith, *Secretary*; and Dr. Merton L. White, *Treasurer*.

Officers for Prince Georges County Medical Society:

Dr. Henry R. Wolfe, *President*; Dr. Max M. Herzberg, *Vice President*; Dr. William R. Greco, *Secretary*; and Dr. John R. Buell, *Treasurer*.

Of these officers the following are Associate members of the D. C. Medical Society: Drs. Kendrick, Gilbert, Law, Byrne, Kelly, Cook, Wright, Wolfe, and Herzberg.

Personals

Dr. Larry B. Silver, a Resident-Intern member of the D. C. Medical Society, will become Assistant Professor of Psychiatry at Rutgers University School of Medicine, in New Brunswick, N. J., on July 1. For the past 2 years he has served as Career Fellow in Child Psychiatry in the Department of Psychiatry at Children's Hospital. Dr. Silver received his undergraduate degree from George Washington University and his degree in medicine from Howard University College of Medicine in 1960.

Dr. James J. Feffer is the new Chairman-elect of the Section on Medicine of the Southern Medical Association.

Obituaries

Thomas Bradley, M.D., F.A.C.S.

(1905-1967)

DR. THOMAS BRADLEY, Washington surgeon for many years, died, January 2, 1967, at the Veterans Administration Hospital.

Dr. Bradley was born in Washington, D. C., August 29, 1905 to Thomas and Mabel Moffat Bradley. He graduated in medicine from the University of Virginia, Charlottesville, in 1929. He interned for a year each at Johns Hopkins Hospital in Baltimore and Emergency Hospital in Washington, and he continued his training at Emergency as resident in surgery for 2 more years. He began his practice in surgery with the late Dr. Harry H. Kerr.

In 1942, during World War II, he entered the Medical Corps of the U. S. Army and served as a Captain in the European Theatre with an advanced hospital evacuation unit. He left the service in 1946 with the rank of Lieutenant Colonel.

Following the War he resumed his practice of surgery in Washington until ill health forced him to retire in 1953. He then accepted a position as professional associate in the Division of Medical Sciences at the National Academy of Sciences-National Research Council. He held this position until 1961.

Dr. Bradley served on the staffs of Children's and George Washington University Hospitals, and of Garfield Hospital before it merged into the Washington Hospital Center. He was on the faculty of George Washington University School of Medicine as Assistant Clinical Professor of Surgery.

Dr. Bradley was a diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and an Active member of the D. C. Medical Society. He was a member of the Washington Academy of Surgery, the Clinico-Pathological Society, and a member and Past President of the Osler Society. He also belonged to the Chevy Chase Club.

He leaves his wife, Mrs. Mary Hume Bradley,

of the home address, 1633 29th Street, N.W.; 2 sons, Thomas R. and Fontaine C. Bradley; and 2 daughters, Ann W. Bradley and Mrs. Charles P. Coleman, the latter of Westgate, Md. He also leaves 2 brothers, Frederick M. Bradley and Fontaine C. Bradley, of Washington, and a sister, Mrs. Henry H. Blagden, of Waldoboro, Maine.

Melville Bendheim Fischer, M.D.

(1889-1967)

DR. MELVILLE B. FISCHER, a Life member of the Medical Society of the District of Columbia, died, February 3, 1967 at his home, 2737 Devonshire Place, N.W.

Dr. Fischer was born to Max and Rosa B. Fischer, June 24, 1889, in Washington, D. C. He attended the public schools of Washington and graduated in medicine from Georgetown University in 1913. He interned at Children's Hospital and spent a year in residency at Garfield Memorial Hospital.

During World War I he served in France as a Captain in the U. S. Army Medical Corps.

Dr. Fischer was one of the organizers of the first Workmen's Compensation Clinic in 1942. Although he retired from private practice 3 years ago, he was active at the Clinic at 1801 Eye Street, N.W., until his death. In addition to his private practice and work at the Clinic, he was house physician to the National Theatre from 1951 to 1962. For many years he was on the medical staffs of Georgetown and Garfield Memorial Hospitals.

Dr. Fischer was an Active member of the Medical Society of the District of Columbia from 1915 to 1934 and was reelected to membership in 1939. He became a Life member in 1965. He was a member of the American Medical Association, the Georgetown Clinical Society, and the Washington Heart Association. He also belonged to the Woodmont Country Club.

He leaves 2 sons, S. Greenhoot Fischer, of 2849 McGill Terrace, N.W., and Dr. Max J. Fischer, of 4500 31st Street, N.W. The latter and a brother, Dr. Aubrey D. Fischer, are both Active members of the D. C. Medical Society. He also leaves a sister, Mrs. Helen Silverstein, of Charleston, W. Va.

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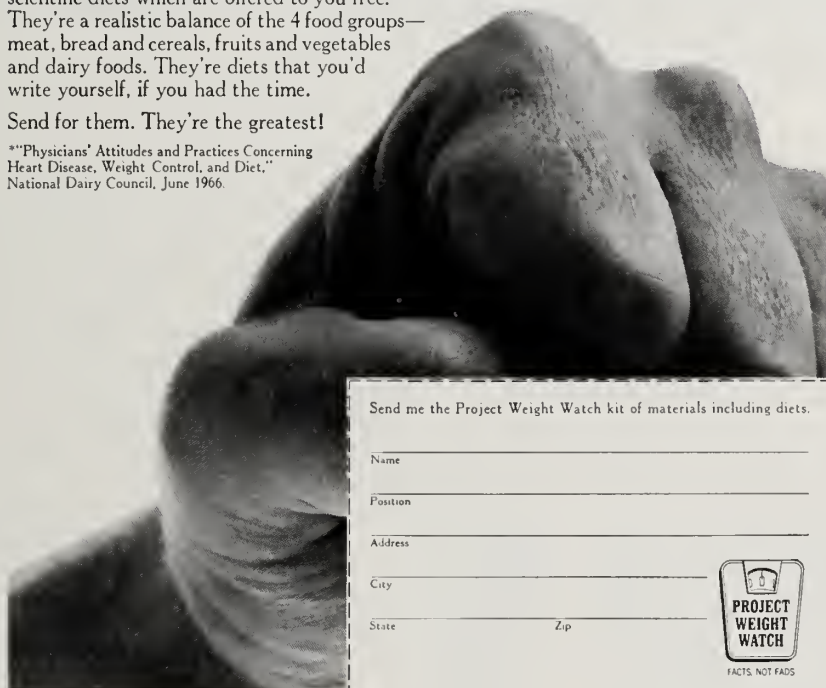
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BOOK REVIEWS

Synopsis of Gross Anatomy. JOHN B. CHRISTENSEN, PH.D., AND IRA ROCKWOOD TELFORD, PH.D. Price, \$5.95. Pp. 248, with 81 illustrations. New York: Harper & Row (Hoebner Medical Division), 1966.

In this day of instant foods, dried and frozen, impending supersonic travel, improved methods of studying languages through audiovisual techniques, etc., it seemed only a matter of time before we received what would amount to "instant anatomy."

As a former instructor of anatomy at Georgetown of several years' standing, I began my review of the "Synopsis of Gross Anatomy" with marked skepticism. It was only when I recalled that the amount of time allotted to the study of anatomy in medical schools has been cut to less than half since World War II that I appreciated the value of this book to the student of anatomy.

The text is well written with the wheat well separated from the chaff. The drawings are clear and concise, and the tables are well planned and offer an excellent review at little more than a glance.

This text is obviously planned as an adjunct to use with anatomical atlases, larger textbooks, textbooks of gross dissection, and other regional anatomy books. I do not agree as the authors state in the preface, that this text may provide all that is needed for a student who finds the subject difficult; rather, it should be used as an adjunct to more comprehensive books on the subject.

I have found the Synopsis well worth studying and only wish I had had a text of this type when I was a student. I shall recommend it to anatomy students who consult me.

PHILIP BURKA, M.D.

Human Development, by 29 Authorities. Edited by FRANK FALKNER, M.D., M.R.C.P. Price, \$20.00. Pp. 644, illustrated. Philadelphia: Saunders, 1966.

This book has the enormously ambitious goal of gathering together the currently available knowledge concerning human growth and development into a single volume. It takes the point of view of the human biologist rather than the clinician, and it asks the how and why questions about the processes of development it describes. The book is a collection of monographs by nearly 30 contributors from widely scattered disciplines. Because its aims are so high, this effort must inevitably fall short. Individual sections review areas that are already more completely treated in monographs and therefore they do not present new material for the advanced worker in the field. It is by bringing together in a single volume information derived from such diverse areas, however, that this volume makes its unique contribution. A reference work rather than a clinical manual, the book points up many recent contributions to the understanding of human biology, and it raises many questions for future research.

There is considerable variability in style and completeness between the individual sections. Some are full of primary data and are abundantly documented and illustrated. Other chapters are brief, speculative, and rather poorly documented. Extensive treatment is given to neurological and behavioral development, skeletal and craniofacial growth, changes in body composition, and anthropomorphic measurements. There is a chapter on statistical methods and experimental design written by a mathematician and complete with Fortran computer program. On the other hand, in discussing the controls initiating labor and determining the length of gestation, the somewhat dubious role of progesterone as the prime controlling factor is accepted uncritically and without citing adequate evidence. The book is perhaps at its best in the excellent tables, graphs, and illustrations supplied by many of the contributors. Examples include the photographs of early implantation stages by Böving, Arey's table summarizing embryogenesis week by week and organ by organ, and a series of pictures illustrating the fetal development of the brain by Larroche. The study of a set of identical twins by Falkner indicates how much can be learned from even a single experiment of nature and is another example of valuable primary data included in the book.

In summary, this excellent volume will be useful as a reference, as a survey embracing many fields within the broad heading of human development, and as an entry into the literature. It is of primary interest to the human biologist with academic and perhaps research interest in the areas covered. However, it contains much clinically useful information and will deepen the understanding of any clinician willing to make the investment of time which this volume requires. The style is not conducive to casual skimming, and is definitely for the scholar rather than the dilettante. But if the chief justification for a separate field of pediatrics is the appreciation by pediatricians of the constant change which accompanies growth and development in childhood, then this is a book taken from the scientific heartland of pediatrics.

GORDON B. AVERY, M.D.

Atlas of Cryosurgical Techniques in Ophthalmology. CHARLES D. KELMAN, M.D. Price, \$18.75. Pp. 118, with 140 illustrations by Daisy Stilwell. St. Louis: Mosby, 1966.

This atlas is specifically written and illustrated to demonstrate the author's personal techniques in cataract cryoextraction with the instrument designed in conjunction with the Frigtronics Company. Other cryosurgical applications are described briefly, and other instrument systems are not discussed in any detail.

The clinical illustrations are particularly well done and the text is clearly detailed. Sections on cryoextrac-

(Continued on page 34)



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Book Reviews

(Continued from page 32)

tion of the hypermature lens, the lens with a torn capsule, and the luxated lens are excellently done.

Considering the price of the book, however, this reviewer was disappointed in its limited scope, particularly on several points:

1. Other instrument systems were not discussed more objectively.

2. The physical principles and characteristics of these instruments are not discussed.

3. None of the clinically applicable pathologic studies done on cryosurgical procedures is presented.

4. The section on retinal applications is quite brief, with only mention of the work of Lincoff and McLean being made.

Broadening the scope of the work would have made it a more valuable reference book.

A. RAYMOND PILKERTON, M.D.

Stereoscopic Atlas of Mastoidotympanoplastic Surgery. HAROLD F. SCHUKNECHT, M.D., WERNER D. CHASIN, M.D., AND JOHN M. KURKJIAN, M.D. Price, \$26.50. Pp. 92, with 51 figures and 70 stereoscopic views in full color on 10 View-Master® reels keyed to labeled drawings and figures, and a View-Master® compact viewer. St. Louis: Mosby, 1966.

The title and price of this book suggest to the prospective reader that it is a comprehensive work on the subject of reconstructive surgery for chronic middle-ear disease. One is rather disappointed initially to realize that this is not the case. The major portion of the book is devoted to a description of the operative technique for a single fixed surgical procedure, with minor variations, which the authors use in the training of residents in otology. Whereas such an approach may be satisfactory in the early stages of the young otologist's training, a broader treatment of the subject would have been welcomed here. The text is generally well organized, and a chapter on histopathology of chronic otitis media is particularly well written and profusely illustrated with some excellent photomicrographs.

The operative procedure described is a postauricular mastoidectomy with obliteration of the operative mastoid cavity and reconstruction of the tympanic membrane with split thickness skin grafts. The stereoscopic color slides are superb, and a small viewer which conveniently folds up is supplied with the book. With the slides one is able to follow the operative procedure step by step while reading the text. The inclusion of some of the other popular tympanoplastic techniques in this portion of the book would have added immeasurably to its value.

In spite of its rather limited scope this book makes a valuable contribution to the rapidly expanding field of otology. It should be required reading for all residents and teachers in otolaryngology. The practicing otolaryngologist will also find it interesting and helpful.

RICHARD L. FIELDS, M.D.

Operable Heart Disease. Pathophysiology, Diagnosis, and Treatment. HOWARD D. SIRAK, M.D. Price, \$12.50. Pp. 130, with 36 illustrations. St. Louis: Mosby, 1966.

This little book gives a brief review of several cardiac conditions amenable to surgery. Its first 43 pages are introductory in nature, defining a few of the terms used in study of the circulation, reviewing the physiology of fetal circulation and the development of pulmonary hypertension, discussing briefly the physiology of extracorporeal circulation, and describing more completely the details of postoperative management.

The rest of the book is divided into 2 sections, congenital heart disease and acquired heart disease. The common congenital lesions are discussed with diagrammatic representation of the abnormalities in pressure and oxygen saturation found by catheterization in each. Accompanying each diagram is a characteristic X-ray reproduction. The anatomy, physiology, clinical findings, special diagnostic procedures, and indications for surgery are reviewed for each lesion. The type of operation performed is then stated briefly.

The same format is carried through the acquired heart disease section in relation to aortic stenosis, aortic insufficiency, mitral stenosis, and mitral insufficiency.

The style is crisp and lucid, nearly staccato. This achieves the goal of brevity admirably. Unfortunately, though, the book is not only brief, it is incomplete. It represents a précis of the views of the author regarding selected lesions. Consistent with this type of presentation is the omission of bibliography.

In the preface the author directs the book primarily to students, interns and residents. It may well stimulate these young people to study further in the field, though they may be disappointed in not finding any reference list to guide them. This is not a reference text, and it will find little usefulness in the library of practicing physicians.

ROBERT R. MONTGOMERY, M.D.

Synopsis of Dermatology. WILLIAM D. STEWART, M.D., F.R.C.P.(C), JULIUS L. DANTO, M.D., AND STUART MADDIN, M.D. Price, \$10.85. Pp. 664, with 155 figures and 32 color plates. St. Louis: Mosby, 1966.

"This book is for the nondermatologist," say the authors, and it is written in clear, lively style, apt to be appreciated best by busy clinicians. Access to the topic of interest is enhanced by a well-planned table of contents and a complete index. Nearly pocket size, it is sturdily bound of heavy duty paper, which gives faithful, glossy reproduction of the profuse illustrations. Each subject is liberally subdivided by paragraph headings in italics or bold face type, a technique that facilitates reader comprehension considerably. Every major section contains a surprising amount of current material condensed from modern basic science research applicable to diagnosis and treatment. Old-fashioned, polysyllabic dermatologic names and archaic nonspe-

(Continued on page 35)

Book Reviews

(Continued from page 34)

cific treatment formulations have been extensively deleted.

The chapters on therapeutics and dermatologic techniques, though brief, are worth many times the cost of the book. Those who remember the long recipes of former volumes will be exhilarated by this common-sense approach to therapy. The chapter on Regional Diagnosis seems unduly long, repetitive, and relatively ineffective. Also, unavoidably, the authors had to summarize many controversial subjects (a practice which leads to inaccuracies). Thus they neglected to mention the malignant potential of acrodermatitis chronica atrophicans or pachyonychia congenita, yet overemphasized the quite rare malignant potential of Peutz-Jeghers syndrome.

Some of the photographs, though technically excellent, seem superfluous, such as the obvious far-advanced pemphigus or the herpes labialis, diagnosable by any layman. Emphasis for the physician might have been better placed on the milder, earlier stages of pemphigus. But the overall effect of the book is that of a highly accurate quick and easy aid to dermatologic diagnosis and treatment which deserves a place on the office book shelf of every nondermatologist.

CHARLES M. AARONSON, M.D.

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1. Bradley, J. E., *et al.*: J. Pediat. 38:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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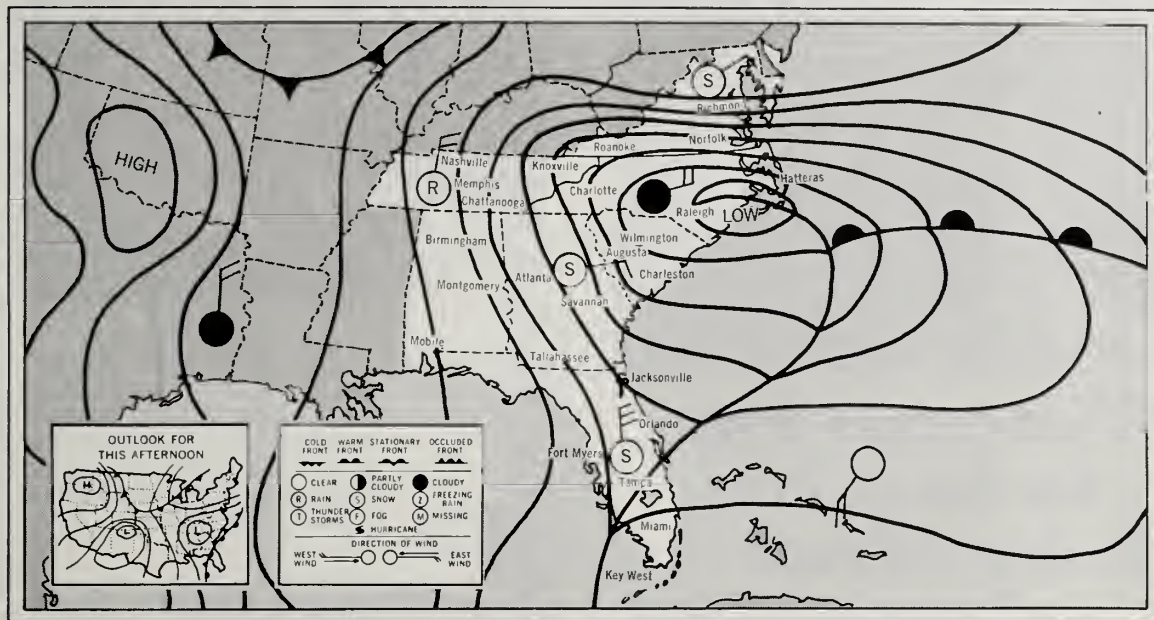
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References: 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuk, E., et al.: Angiology, 12:102, 1961. 3. Rowls, W., et al.: Med. Times, 87:818, 1959.

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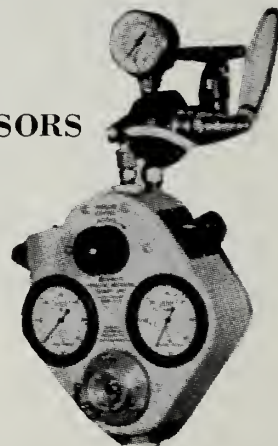
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New low-cost tetracycline/antifungal therapy

for broad-spectrum activity
plus specific antifungal prophylaxis
at significant patient savings

Whenever tetracycline is indicated in these candidates for Candida:

1. diabetic patients



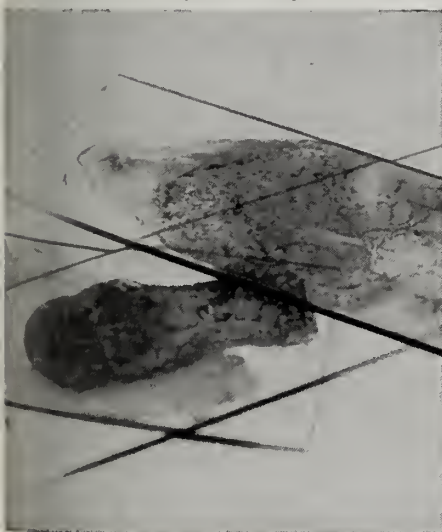
2. nonpregnant women with a history of recent or recurrent monilial vaginitis



3. elderly or debilitated patients



4. patients with a past history of moniliasis



5. patients on long-term tetracycline or corticosteroid therapy



PRESCRIBING INFORMATION. For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood.) **Precautions:** Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. **Supplied:** Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

BRISTOL

BRISTOL LABORATORIES
Division of Bristol-Myers Company
Syracuse, New York

Tetrex-F®

Each capsule contains tetracycline phosphate complex equivalent to tetracycline hydrochloride 250 mg. and nystatin 250,000 units.



I'm supposed to get up and do things?

With my heart?

It's entirely natural—and may even be desirable—for the cardiovascular patient to be somewhat anxious about himself.

But when anxiety leads to unreasonable self-imposed limitations and restrictions . . . when it aggravates cardiovascular symptoms . . . when it interferes with restful sleep, measures to help alleviate the anxiety are probably in order.

One measure, of course, is reassurance. Another, adjunctive measure, is EQUANIL (meprobamate).

Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose

should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

American Hospital Formulary Service Category No. 28:16.08

A quality controlled product of Wyeth Laboratories Philadelphia, Pa.

to help relieve anxiety and tension occurring
alone or secondary to organic disease

Equanil[®]
(meprobamate)



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Walnut Woods . . . take 70-S to Montrose Rd., right one block to Hitching Post Lane, right to Old Stage Rd., then right on Old Stage. Priced from \$45,000.

Luxmanor . . . Take Old Georgetown Rd. north from 70-S for two blocks to New Lux Lane, turn left and follow the Luxmanor sign to Stephalee Lane. Priced from \$64,000.

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“Take a laxative” is a harsh sentence

Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.

On the other hand, Dulcolax

provides a nearly normal movement. Through its unique contact action, it induces the kind of natural contraction waves of the colon necessary for gentle, complete, comfortable bowel movements.

For your next constipated patient, try Dulcolax—the laxative with the gentle touch.

Dulcolax, brand of bisacodyl tablets (5 mg.)

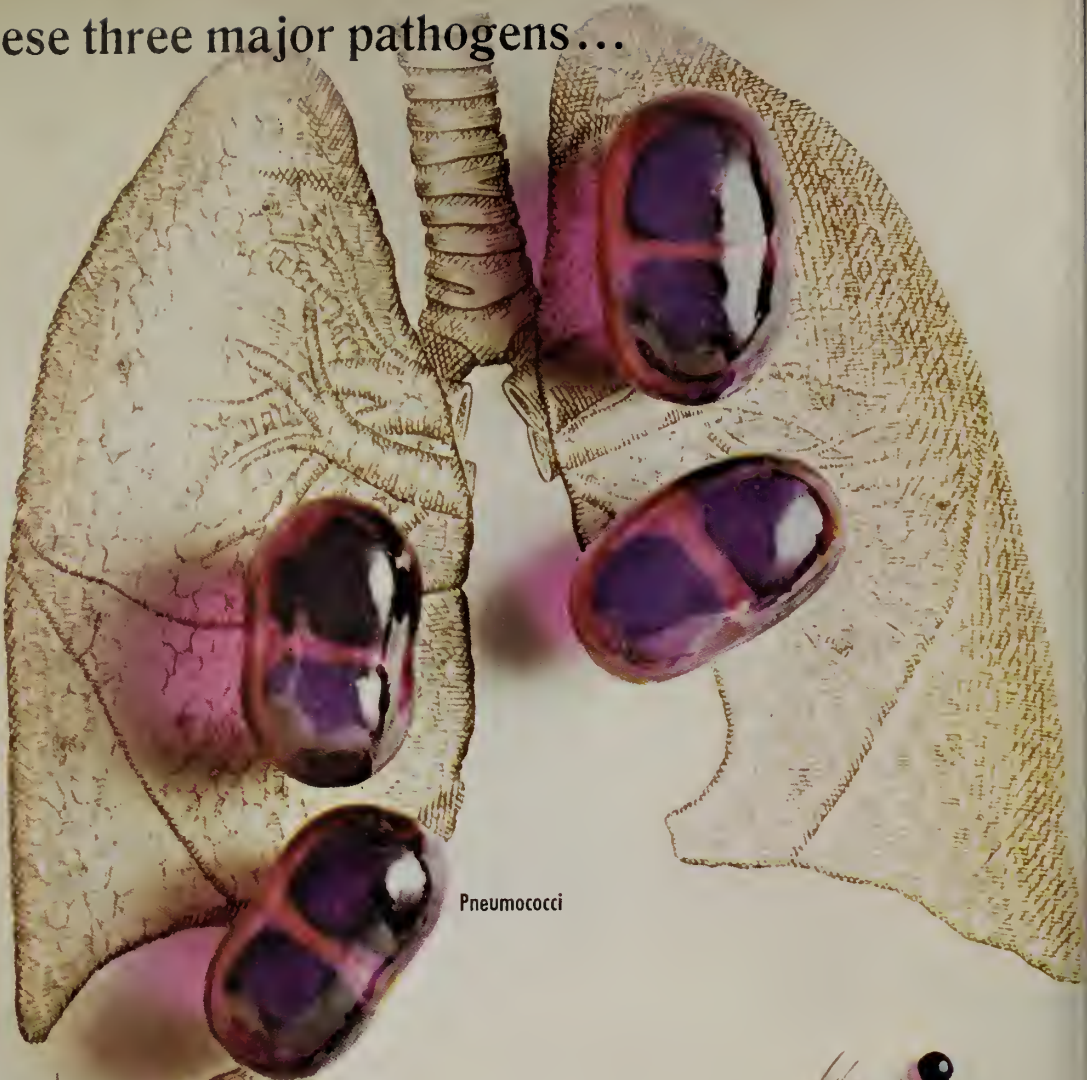
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Geigy Pharmaceuticals
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Ardsley, New York

Dulcolax[®] a gentle persuasion

Geigy

Against these three major pathogens...



Pneumococci

Penicillin-Sensitive
Staphylococci



Beta-Hemolytic
Streptococci

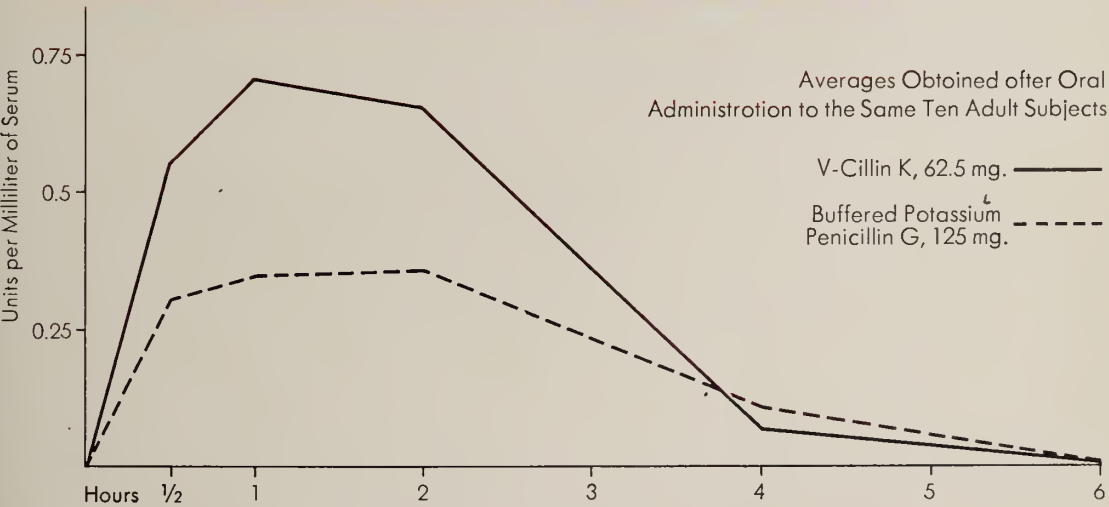
V-Cillin K[®] provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	Median MIC (mcg./ml.)	Range	Median MIC (mcg./ml.)	Range	Median MIC (mcg./ml.)	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K[®]  700157
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information)

New 500 mg. tablets...a more convenient way to give high doses



Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in

those who have previously demonstrated sensitivity to penicillin. If severe hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs. Relief of immediate allergic manifestations as well as antihistamine and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderate severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

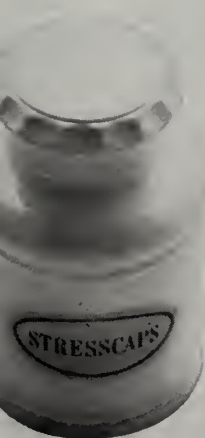
Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly



in alcoholism:

B and C vitamins aid therapy. Therapeutic amounts of B and C vitamins can be important in the management of the alcoholic patient. In alcoholism, as in many chronic illnesses, STRESSCAPS vitamins aid therapy.



Stresscaps[®]

Stress Formula Vitamins Lederle



Each capsule contains:
 Vitamin B₁ (as Thiamine Mononitrate) 10 mg
 Vitamin B₂ (Riboflavin) 10 mg
 Vitamin B₆ (Pyridoxine HCl) 2 mg
 Vitamin B₁₂ Crystalline 4 mcgm
 Vitamin C (Ascorbic Acid) 300 mg
 Niacinamide 100 mg
 Calcium Pantothenate 20 mg
 Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

**How long will it take him
to recover from the flu
if he just doesn't care?**



**Does he really care?
Is he alert, encouraged,
positive and optimistic
about getting out of bed
and back to work soon?**

**Or is he giving in to
the depressing impact
of confinement?**

**When functional fatigue
complicates convalescence,
Alertonic can help...**

Pleasant-tasting Alertonic is pipradrol hydrochloride—an effective cerebral stimulant whose gentle ana-leptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

*Adequate dosage is important: Prescribe Alertonic—
one tablespoonful t.i.d., 30 minutes before
meals...tastes best chilled.*

*And for your patient's sake, prescribe Alertonic
in the convenient, economical one-pint bottle.*

Alertonic[®]

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B₁) (10 MDR*), 10 mg.; riboflavin (vitamin B₂) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B₆), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215



"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"



The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE[®] LP



PITMAN-MOORE Division of The Dow Chemical Company, Indianapolis





TABLETS

Equagesic[®]

(meprobamate and
ethoheptazine citrate with
aspirin)



Precautions: Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy.

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

Weighing on his mind, too

When pain evokes anxiety and tension, thereby heightening patient discomfort, a simple analgesic may only touch on part of the problem.

This single-prescription, non-narcotic product, however, usually provides effective analgesia *and* helps put the patient's mind at ease.

Norinyl[®] tablets

(norethindrone 2 mg. $\bar{c}$ mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

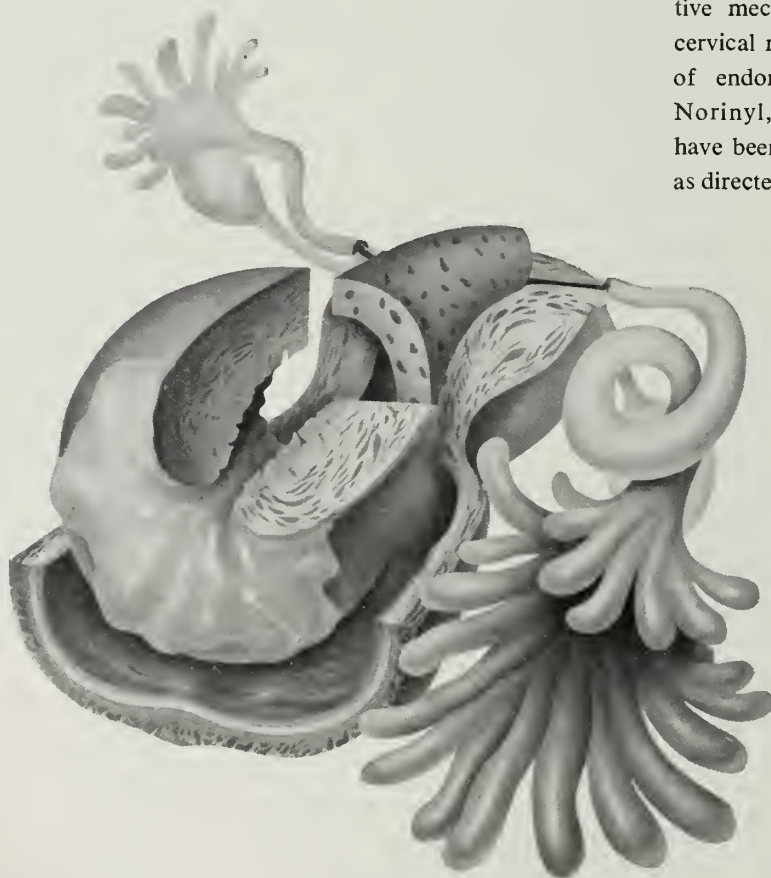
**inhibition of ovulation by means of
2 time-proved hormonal agents**

**production of a cervical mucus hostile to
sperm motility and vitality**

**creation of an endometrium unreceptive
to egg implantation**

no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus¹⁻¹³ and an acceleration of endometrial changes.^{1-3,7-16} With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to con-

firm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-

ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism. **Side Effects:** Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from
SYNTEX
LABORATORIES INC. PALO ALTO, CALIF.

Norinyl® tablets
(norethindrone 2 mg. • mestranol 0.1 mg.)

for multiple contraceptive action

Team support is good medicine for crippled spirits

Tough Break



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STORES IN THE DAILY
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PUBLIC BETTER
INFORMED ON MATTERS
OF HEALTH

Accidents do happen... but chances are he'll be back in the game again before you know it. Young athletes mend quickly, thanks to their excellent physical condition and the help of their physician. During the tedious weeks ahead, our injured quarterback can depend on Peoples to carry the ball when it comes to providing the medication his doctor prescribes: even a wheel chair, crutches or a cane, if necessary. And to keep our hero's spirits up, Peoples has a smile-a-minute selection of get-well cards that the entire squad as well as the cheering section can send to show they are rooting for him. Helping

people when they need help is the reason Peoples is in business. So, whenever your physician prescribes something for you or anyone in your family, bring the prescription to your nearby Peoples Drug Store. From the rarest of drugs to an amusing magazine, book or card, Peoples wants to be of service to you. And that means 24 hours a day, seven days a week, because there are seven Peoples stores open around the clock, every day of the week. See the Yellow Pages for the Peoples All Night Store nearest you. As always, you will be served courteously, efficiently and professionally.

PEOPLES

PRESCRIPTION DRUG STORES

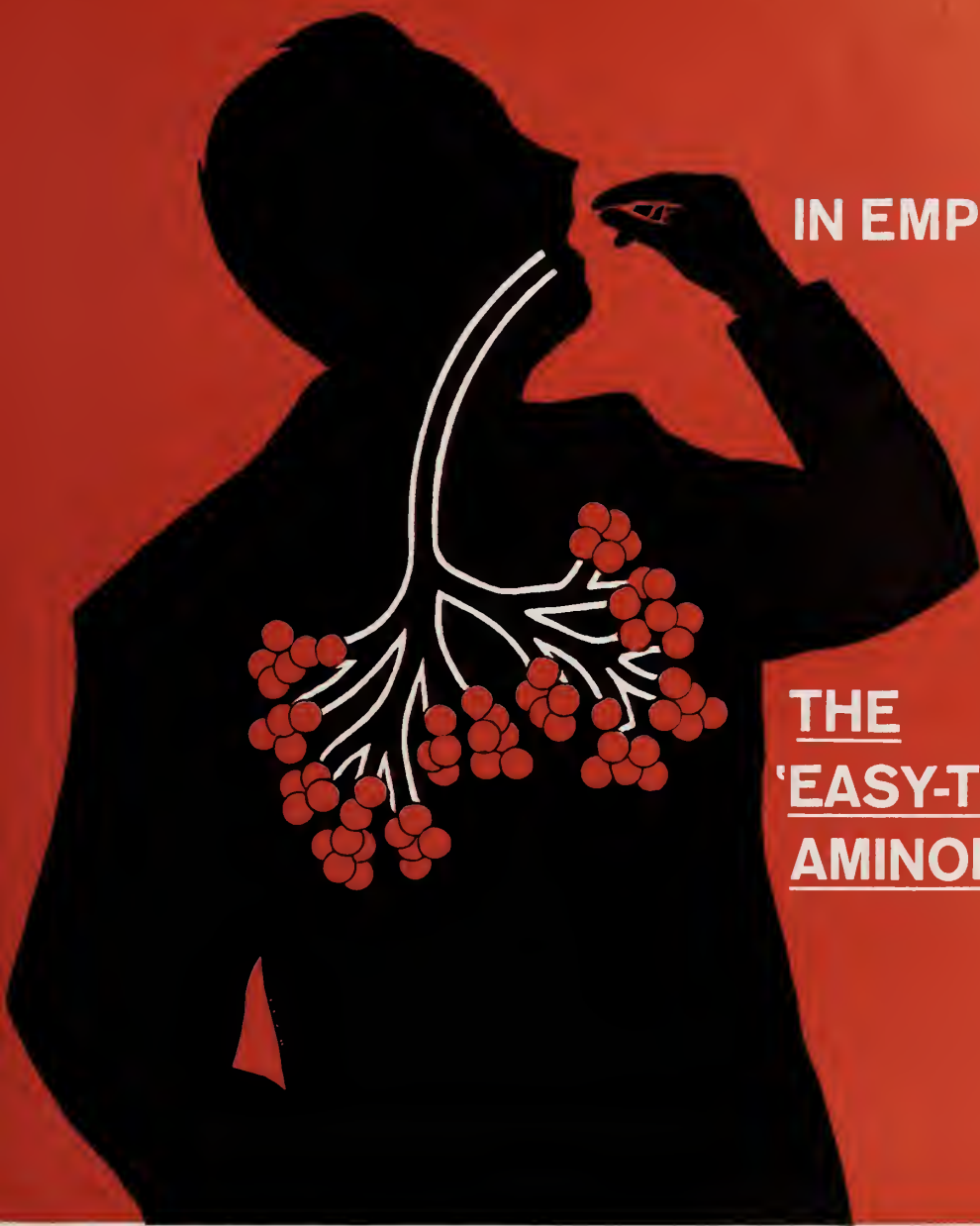
ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965. A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

Just because a guy has splintered bones doesn't mean he necessarily has shattered spirits. Being out of the action can be a bitter pill to swallow, all right, but team spirit makes it easier to take. It's a lucky break for this casualty, Doctor, that he has men like you on his team. And we're behind you all the way, supporting your tireless efforts to treat and heal . . . providing our own services whenever we can help. Peoples Drug Stores will serve you and your patients efficiently, courteously and professionally.



PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966. A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.



IN EMPHYSEMA

THE
'EASY-TO-TAKE'
AMINOPHYLLINE

Aminophylline **dura-tabs**[®]

prolonged-medication tablets 4½ gr. (0.3 Gm.)

Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

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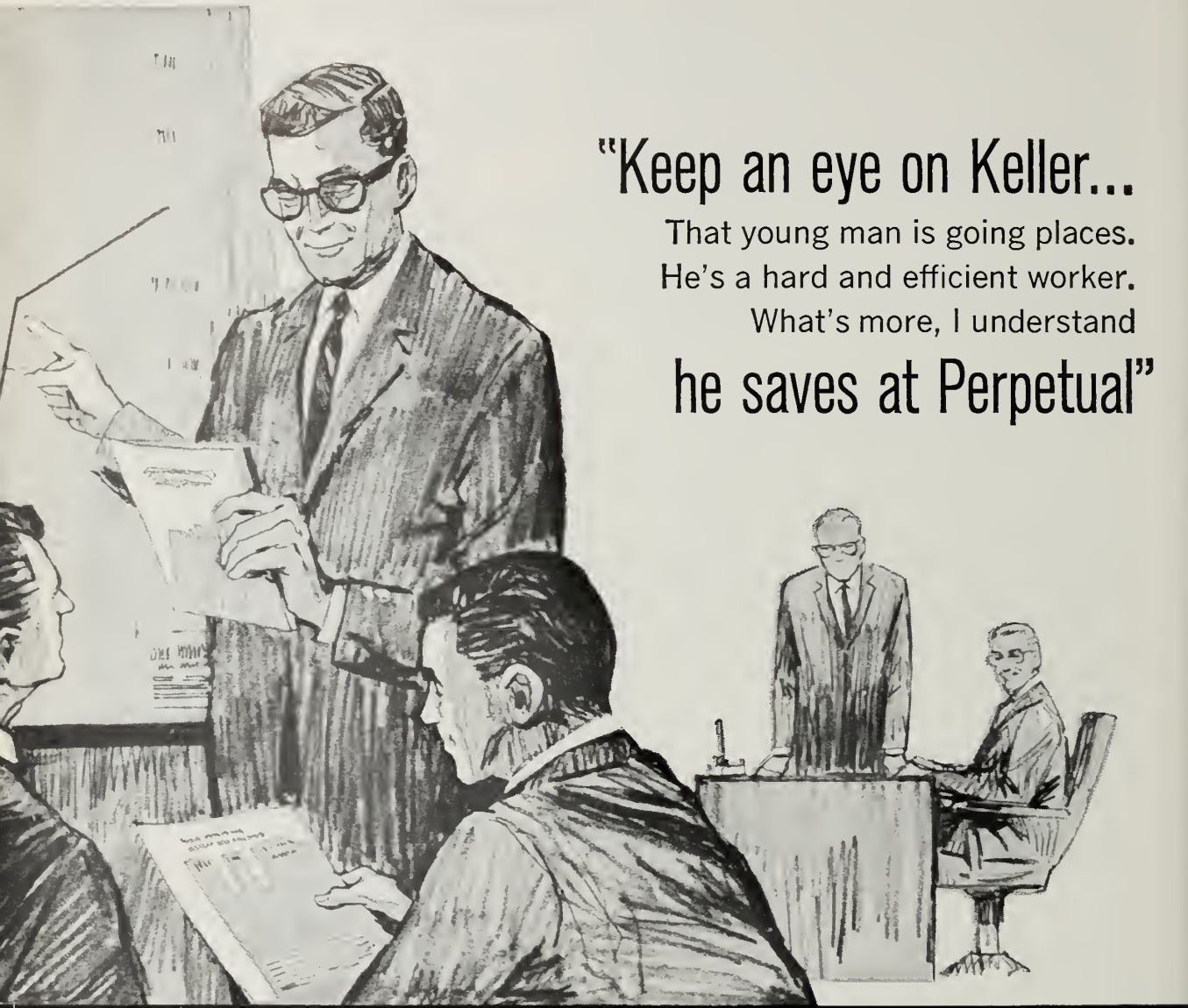
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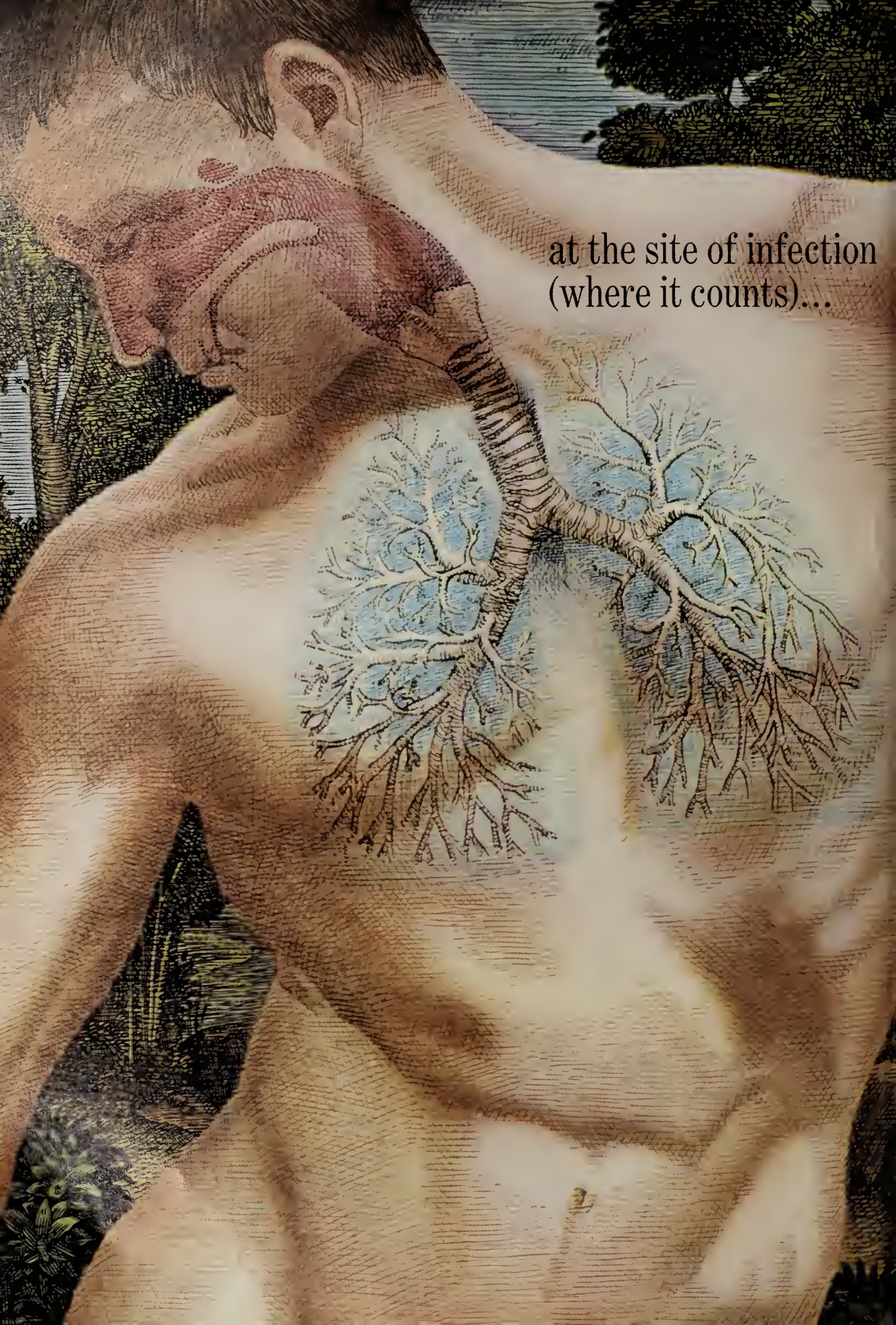
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In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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700121



(See next page for prescribing information.)

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Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®

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For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Warn against hazardous occupations requiring complete mental alertness. Use caution in administering to addiction-prone patients or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

Adverse reactions: Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

Dosage: Oral—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

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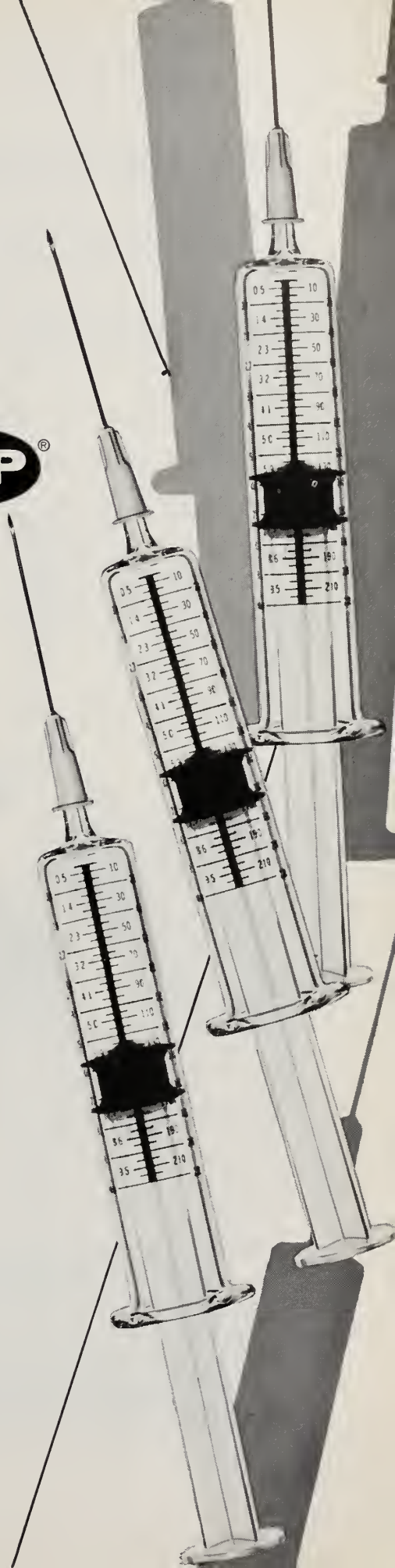
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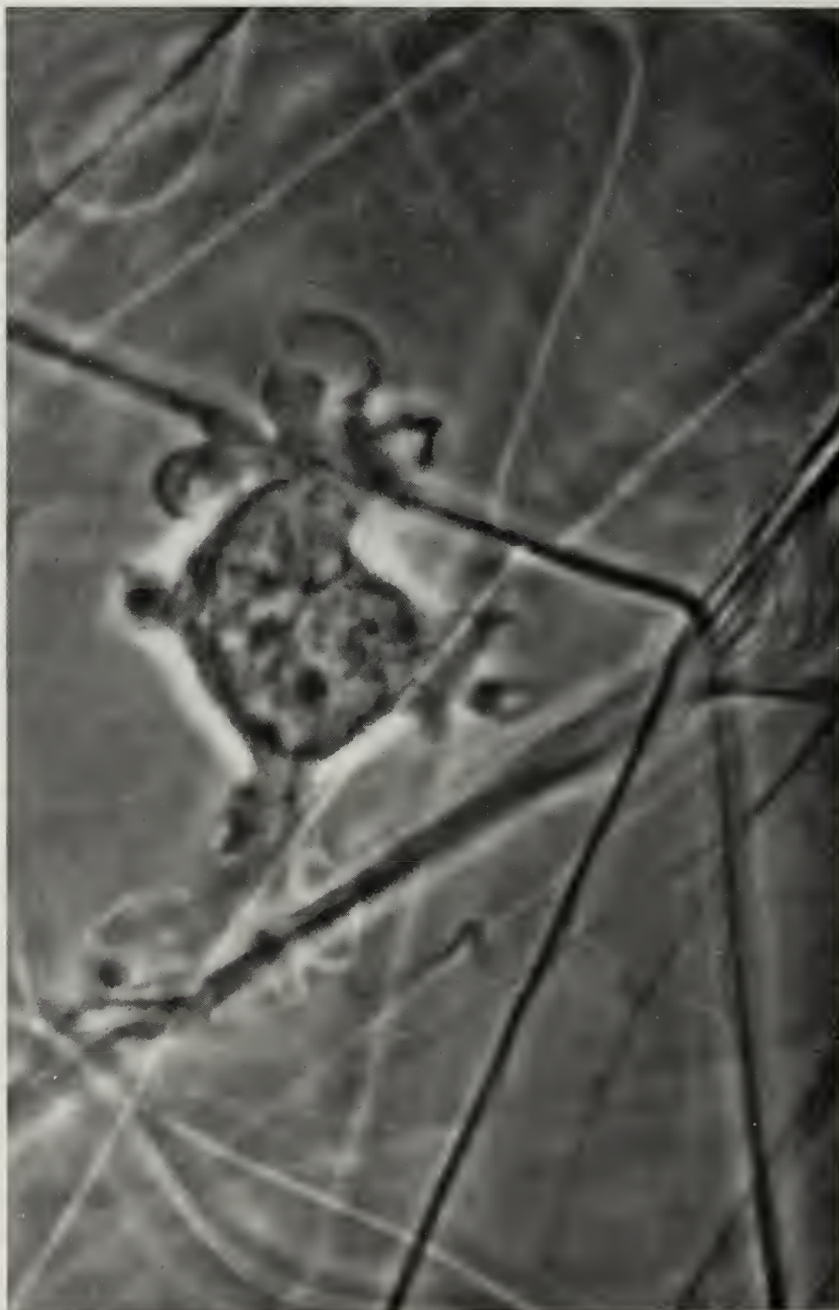


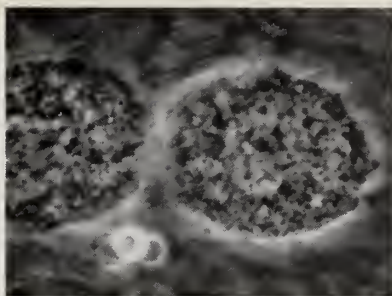
INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

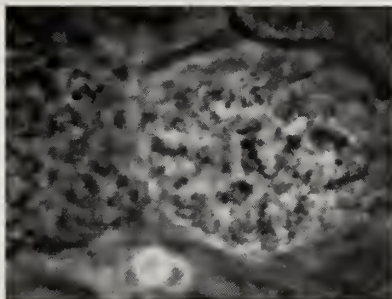
You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.





Phase-contrast microscopy showing mast cell before injury.



Mast cell (after injury) has broken up and released cytotoxins.

Visual evidence of how corticosteroids influence the inflammatory reaction

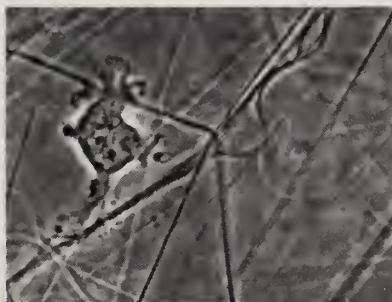
Working with phase-contrast cinematography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

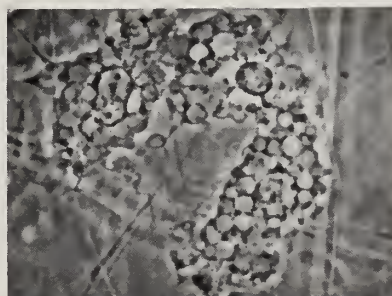
In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

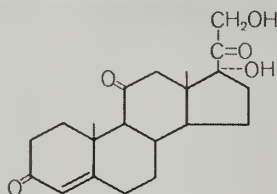


In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

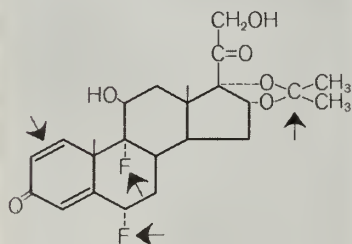
*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



Hydrocortisone

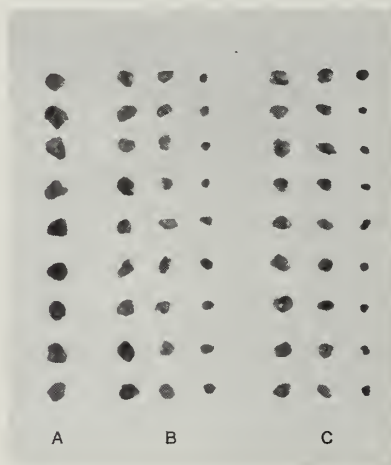


Fluocinolone Acetonide (Synalar)

- a double bond between carbons 1 and 2
- fluorine substitutions at both the 6- α and the 9- α positions
- the addition of the acetonide at the 16- α , 17- α positions, thus providing one of the most potent topical corticosteroids available.

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY¹⁻⁴ is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B—injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY¹⁻⁴ also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

Representative Clinical Results with Synalar*			
Efficacy Documented in over 4,000 Patients			
Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Ecematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964, vol. III, pp. 234-280. 4. Gubersky, V. R.: To be published.

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One-Half Sodium Secobarbital
supplied in $\frac{3}{4}$, 1½, and 3-grain Pulvules[®]**



Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis. Not suitable for continuous daytime sedation.

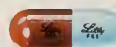
Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in pa-

tients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.



Dosage: 1 ½ to 3 grains at bedtime.

Additional information available to physicians upon request.

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"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"



The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

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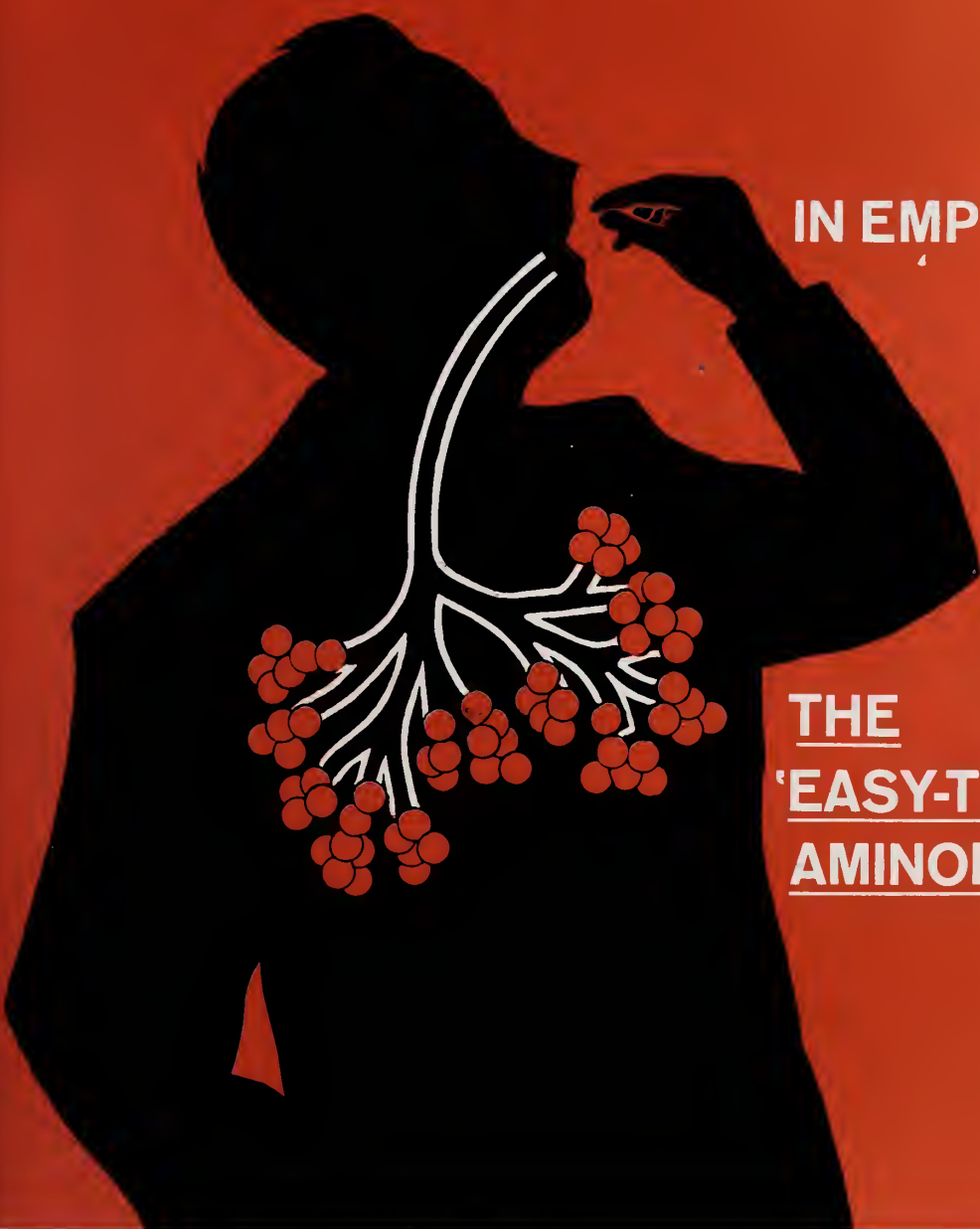
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Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

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Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

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when the need arises for a tranquilizer...
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Vistaril®

HYDROXYZINE PAMOATE

Actions: Hydroxyzine is a rapid-acting, true ataraxic, unrelated chemically to phenothiazines, reserpine or meprobamate. It induces a calming effect in anxious, tense, psychoneurotic adults and also in anxious, hyperkinetic children without impairing mental alertness. It is not a cortical depressant, but its action may be due to a suppression of activity in certain key subcortical areas. Antihistaminic and antiemetic effects have been demonstrated clinically; skeletal and smooth muscle relaxation has been observed in experimental animals. It is rapidly absorbed in the gastrointestinal tract.

Hydroxyzine has demonstrated its clinical effectiveness in the chemotherapeutic aspect of the total management of neuroses and emotional disturbances manifested by anxiety, tension, agitation, apprehension or confusion.

Indications: Total management in conditions of emotional stress requires in most instances a combined approach of psychotherapy and chemotherapy. Hydroxyzine has been found to be particularly useful for this latter phase of therapy in its ability to render the disturbed patient more approachable and amenable to psychotherapy in long-term treatment of the psychoneurotic and the psychotic, although it should not be used as the sole treatment of psychosis or of clearly demonstrated cases of depression.

Hydroxyzine is also useful in alleviating the manifestations of anxiety and tension in situations in which the causative stress is temporary, as in the preparation for dental and other minor surgical procedures, and in acute emotional problems. It has also been recommended for the management of anxiety associated with organic disturbances such as certain types of heart disease, digestive disorders, dermatoses, senility, the menopausal syndrome, and behavior problems in brain-damaged or epileptic children.

In addition, it has been recommended as adjunctive therapy in alcoholism, and allergic conditions with strong emotional overlay, as in asthma, chronic urticaria, and pruritus.

Hydroxyzine has also demonstrated effectiveness in controlling nausea and vomiting associated with gastritis, gastroenteritis and enteritis; upper respiratory infections, influenza and pneumonia; postoperative conditions; miscellaneous diseases such as Ménière's syndrome, migraine, and vestibulitis.

Hydroxyzine for intramuscular use is especially useful in treating the acutely disturbed or hysterical patient and the acute or chronic alcoholic patient with anxiety withdrawal symptoms or delirium tremens. Used adjunctively pre- and postoperatively and pre- and postpartum, hydroxyzine allays anxiety, permits substantial reduction in narcotic dosage and controls emesis.

Clinical use of hydroxyzine as an adjunct to the management of labor has been extensively reported in the literature without evidence of harm to the mother or fetus.

Contraindications: Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate to establish safety in early pregnancy. Until such data are available, hydroxyzine is contraindicated in early pregnancy.

Hydroxyzine is contraindicated in any individual who has shown a previous hypersensitivity to it. The parenteral solution is intended only for intramuscular or intravenous administration and should not, under any circumstances, be injected subcutaneously or intra-arterially.

Precautions: Drowsiness may occur with oral or parenteral use of this drug, and patients should therefore be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Since hydroxyzine may potentiate the action of central nervous system depressants, conjunctive use with these drugs requires that their dosage be decreased. Hydroxyzine reduces the requirements by as much as 50% for narcotics such as meperidine, so their use in preanesthetic adjunctive therapy should be modified on an individual basis.

As with any preparation for intramuscular injection, Vistaril (hydroxyzine hydrochloride) Parenteral Solution should be injected well within the body of a relatively large muscle such as in the upper outer quadrant of the buttock or the lateral thigh. To avoid the possibility of radial nerve injury, injections should not be made into the lower and middle thirds of the upper arm. Aspiration and proper anatomical selection of injection site should be observed as a precaution against inadvertent injection into a blood vessel or major nerve. In a few instances of reported intravenous administration of hydroxyzine hydrochloride, digital gangrene has occurred distal to the injection site, apparently the result of endarteritis and thrombosis. This event has been considered due to inadvertent intra-arterial injection, although the possibility of periaarterial extravasation, with arterial spasm, cannot be ruled out. Therefore, particular caution should be observed when hydroxyzine parenteral solution is administered intravenously to insure that it is injected only into intact veins; avoid either intra-arterial injection or extravasation. Due to infrequent phlebitis resulting from too rapid intravenous administration of the solution, the rate of injection should not exceed 25 mg. per minute. A single intravenous administration in excess of 100 mg. is not recommended (see Adverse Reactions).

Adverse Reactions: No serious side effects have been reported and confirmed in the administration of hydroxyzine to date. While therapeutic doses of hydroxyzine seldom produce impairment of mental alertness, transient drowsiness may occur; this may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may be seen with higher doses. Involuntary motor activity, including rare instances of tremor and convulsions, has been reported, usually with doses considerably higher than those recommended. Extensive clinical use has substantiated the absence of toxic effects on the bone marrow or liver when hydroxyzine was administered in recommended doses for over four years of uninterrupted therapy.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2-3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. (In the course of normal red cell destruction in the body, approximately 8 Gm. of hemoglobin are liberated every 24 hours.) Therefore, it is recommended that, when given intravenously, parenteral hy-

(Continued on succeeding page.)

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a tranquilizer...consider

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HYDROXYZINE PAMOATE

(Continued from preceding page.)

droxyzine be diluted with 50 cc. of normal saline and given during a period of four minutes or more; with this technique, drug-induced hemolysis is unlikely.

Dosage: *Oral*—Adults: Dosage varies with individual requirements and ranges from 25 mg. t.i.d. to 100 mg. q.i.d.

Children: *under 6 years*, 50 mg. daily in divided doses; *over 6 years*, 50-100 mg. daily in divided doses.

Parenteral—For adult psychiatric and emotional emergencies, including acute alcoholism—I.M.: 50-100 mg. Stat., and q. 4-6 h., p.r.n.; I.V.: 50 mg. Stat., maintain with 25-50 mg. I.V. q. 4-6 h., p.r.n.

Nausea and vomiting—Adults: 25-100 mg. I.M. or I.V.; Children: 0.5 mg./lb. body weight I.M.

Pre- and postoperative adjunctive medication—Adults: 25-100 mg. I.M. or I.V.; Children: 0.5 mg./lb. body weight I.M.

Pre- and postpartum adjunctive therapy—25-100 mg. I.M. or I.V.

Patients may be started on parenteral therapy when indicated by the clinical situation. They should be maintained on oral therapy whenever this route is again practicable.

As with all potent medications, the dosage should be adjusted according to the patient's response to therapy.

Supply: *Vistaril (hydroxyzine pamoate)*

Capsules—25 mg., two-tone green capsules; 50 mg., green-and-white capsules; and 100 mg., green-and-gray capsules; in bottles of 100 and 500. Each capsule contains hydroxyzine pamoate equivalent to 25 mg., 50 mg., or 100 mg. of hydroxyzine HCl.

Vistaril (hydroxyzine pamoate) Oral Suspension—Equivalent to 25 mg. hydroxyzine HCl per 5 cc. teaspoonful, in 1 pint bottles.

Vistaril (hydroxyzine HCl) Parenteral Solution—10 cc. vials, 25 and 50 mg. per cc.; 2 cc. vials, 50 mg. per cc., in packages of 6 vials; Isoject[®] 25 and 50 mg. per cc., 1 cc. per unit, Isoject, 100 mg. per 2 cc. unit, 50 mg. per cc.

Composition (Parenteral Solution)

Each cc. contains: 25 mg./cc. 50 mg./cc.

Hydroxyzine

hydrochloride	25 mg.	50 mg.
---------------	--------	--------

Benzyl alcohol	0.9%	0.9%
----------------	------	------

Sodium hydroxide

(approx.) to adjust

to optimum pH	0.22%	0.46%
---------------	-------	-------

Water for Injection	q.s.	q.s.
---------------------	------	------

More detailed professional information available on request.

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Tandearil[®]

oxyphenbutazone

Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.



Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
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Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic
joints move again



Please see ad-
joining page for
brief prescribing
summary

TA-4919 PC

Sperling, I. L.: "3 Years' Experience
with Oxyphenbutazone in the
Treatment of Rheumatic Disorders,"
Applied Therapeutics 6:117, 1964.

Watts, T. W., Jr.: "Treatment of Rheu-
matoid Disorders with Oxyphenbu-
tazone," Clin. Med. 73:65, 1966.

3 out of 4 osteoarthritics com-
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76.9% of 407 patients

84.6% of 39 patients

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Cucumbers cure headaches?



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A Building Block approach to treating hypertension



With these three therapeutic building blocks you can create a once-a-day regimen to fit almost any degree of hypertension. See the following pages for details . . .



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Enduron eliminates sodium around the clock, yet is relatively sparing of potassium

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Use Enduron once a day as an ideal starting therapy in mild hypertension. Use it, too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day

ENDURON[®]
METHYCLOTHIAZIDE



DAILY
DOSAGE
RANGE

Minimum



2.5 mg. tablet

Usual



5 mg. tablet

Intermediate



7.5 mg.

Maximum



10 mg.

See Brief Summary on final page of advertisement.

To build added response, shift to Enduronyl



The deserpidine component compares favorably to reserpine, but with reduced side effects

The rauwolfia component of Enduronyl is deserpidine (Harmony®), a purified crystalline alkaloid. It is comparable to reserpine in its antihypertensive and tranquilizing activity. Yet it produces less tendency toward typical rauwolfia side effects such as drowsiness, lethargy, stuffy nose, depression, etc.

Patient acceptance has been excellent.

Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most needed: in the deserpidine. These scored tablets give a surprisingly flexible choice of doses (see below).

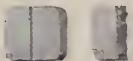
Use Enduronyl for your patients within the broad range of mild to moderate hypertension. Dosage is *once* a day: this means Enduronyl will generally cost patients less than equivalent drugs taken two or three times daily.

Once a day, every day

ENDURONYL®
METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

ENDURONYL FORTE
METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.



	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

Eutonyl affords a different kind of basic therapy for moderate to severe cases



Effect tied to reduced peripheral vascular resistance; no central depressant action

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance, with little or no effect upon cardiac output.^{1,2}

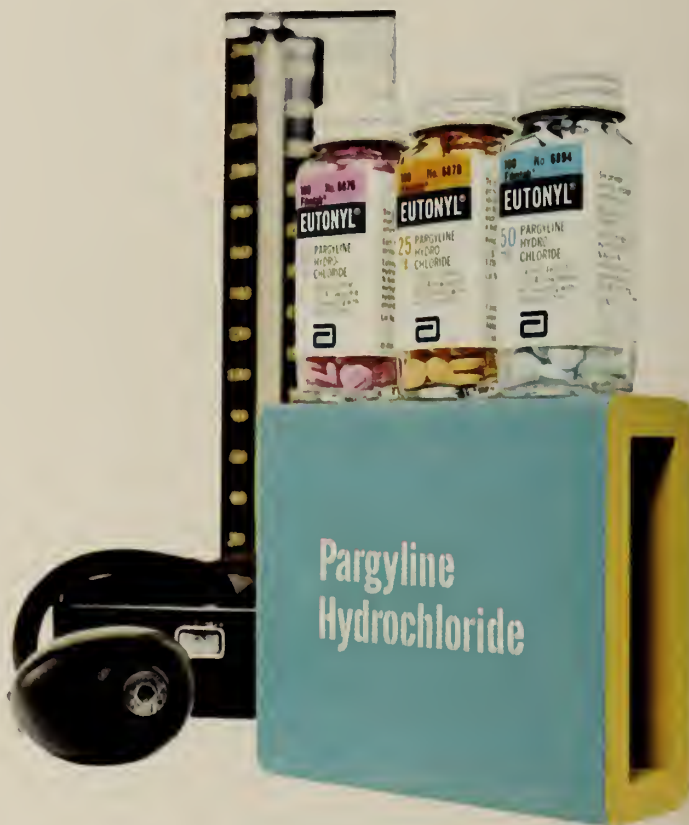
In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—including some unusually difficult cases. Eutonyl lowers diastolic in proportion to systolic, and in half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.

Most important: There is no central depressant action. In fact, many patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

Once a day, every day

EUTONYL®
PARGYLINE HYDROCHLORIDE



	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	 10 mg. tablet	 25 mg. tablet	 50 mg. tablet or as needed	    200 mg.

1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.

2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.

Eutron adds thiazide for enhanced therapy with milder side effects



Only a 7/4 mm. span between standing and recumbent pressures—reduced chance of orthastatic hypotension

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.

Indeed, fully 94.5% of all patients studied during clinical trials continued on therapy uninterrupted by side effects.

Most striking was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, with reduced likelihood of orthostatic effects. And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

EUTRON™
PARGYLINE HYDROCHLORIDE 25 MG.
WITH METHYLOTHIAZIDE 5 MG.



DAILY
DOSAGE
RANGE

Minimum



12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide

Usual starting



25 mg. pargyline hydrochloride and 5 mg. methyclothiazide

Intermediate



37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide

Maximum



50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

ENDURON

METHYLOTHIAZIDE

ENDURONYL

Each tablet contains Methyclothiazide 5 mg. with Deserpidine 0.25 mg. or 0.5 mg.

Indications: Enduron is used to control edema and mild hypertension. Also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension.

Contraindications: Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shut-down; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Enduronyl is contraindicated in severe mental depression, active peptic ulcer, and ulcerative colitis.

Warnings: Consider possible sensitivity reactions in patients with a history of allergy or asthma. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

Precautions and Adverse Reactions: Use thiazides with caution in severe renal dysfunction. Caution is also necessary with impaired hepatic function or progressive liver disease. During intensive or prolonged thiazide therapy, watch chloride and potassium levels (especially the latter if patient is on digitalis). In surgical patients, thiazides may alter response to vasopressors and tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborn). Occasional thiazide side effects also include blood dyscrasias; elevations of BUN, serum uric acid, or blood sugar; electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfias may increase hypotensive effects of surgery or anesthesia, and are best discontinued two weeks prior. They also lower the convulsive threshold in epilepsy. Other possible rauwolfia side effects include drowsiness, nasal stuffiness, nausea, weight gain, and diarrhea. Less frequent complications of deserpidine therapy are aggravation of peptic ulcer, epistaxis, and skin eruption. Alcohol, barbiturates or narcotics may potentiate action of deserpidine.

EUTONYL

PARGYLINE HYDROCHLORIDE

EUTRON

Each tablet contains Pargyline Hydrochloride 25 mg. with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for use in patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone.

Contraindications: Pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained, not recommended for use in

patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. Interval of two weeks should separate therapy and use of these agents.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When necessary to administer alcohol, narcotics (meperidine should be avoided), anti-histamines, anesthetics, barbiturates, chloral hydrate and other hypnotics, sedatives, tranquilizers, or caffeine, these can be used cautiously at a dosage of 1/4 to 1/5 the usual amount. Adjust dose of anesthetic agents to response of patient. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver dysfunction or progressive liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

During intensive or prolonged methyclothiazide therapy, watch chloride and potassium levels (especially latter if patient is on digitalis). Methyclothiazide also may reduce arterial response to pressor amines. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborns). Thiazide drugs may increase responsiveness to tubocurarine.

Side Effects: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Thiazide side effects also include blood dyscrasias, elevation of BUN, serum uric acid, or blood sugar, electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout. Nocturia has been observed with the combination.

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and dependency?**

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And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B₁) (10 MDR*), 10 mg.; riboflavin (vitamin B₂) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B₆), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.

†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

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THIS IS THE FIRST of a fifth series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions and scientific organizations in the Washington Metropolitan Area. For the NATIONAL INSTITUTES OF HEALTH NUMBER the Editorial Board is indebted to Dr. Leonard Laster, Consulting Editor of the MEDICAL ANNALS, who secured the papers which appear in this issue.

"The Case of the Yellow Palms" and Other Syndromes in Need of Detection

DONALD S. FREDRICKSON, M.D.*

AT FIRST GLANCE the "Case of the Yellow Palms" and its companions to be introduced here may seem important only to collectors of rare syndromes that couple diagnostic challenge with therapeutic futility. To be sure, they come from a garden of curiosa, the familial disorders of lipid metabolism, which have memorable features that border on the exotic including the cherry-red spots of Tay-Sachs or Niemann-Pick disease, the little venous aneurysms in the conjunctivae of Fabry's disease, the acanthocytes of α -beta-lipoproteinemia, or the orange tonsillar remnants that signify Tangier disease, the familial deficiency of alpha lipoproteins.

There are in this general group, however, other disorders in which mutant genes give rise to manifestations only slightly less dramatic but far more demanding of correct interpretation. There is increasing evidence that their detection in the relatively young patient may allow conservative therapy to increase freedom from serious disability and even lengthen the life span. These are the heritable diseases in which plasma lipoprotein concentrations rise out of the normal range. This is often accompanied superficially by xanthomata of

the skin and tendons and by more serious effects on the vascular system and sometimes the pancreas and other viscera.

Familial hyperlipidemia is a confusing mixture of diseases that are not particularly new but are undergoing a revival of interest. Now springing from the collective disorders of "essential hypercholesterolemia" or "essential hyperlipemia" are more discrete syndromes. Improved definition means greater opportunities for earlier recognition, establishment of gene frequencies, and deeper probing of the underlying metabolic defects. It is still distressingly true that many children with these disorders go undetected long after their genetic hazard has been uncovered in their parents.

To be sure, precise diagnosis of phenotypes is still difficult. The preliminary detection of abnormalities is relatively simple, however, and no clinician need be excluded from participation. The requirements are 3: awareness of certain clues that can be discovered on routine examination, accessibility of simple plasma lipid determinations, and willingness to explore the family history and examine key relatives. Confirmation of the diagnosis sometimes requires analyses presently available at only a few centers.

One such focus for intensified research on familial hyperlipidemia has been established in the

* Director, National Heart Institute, and Chief, Laboratory of Molecular Diseases, National Heart Institute, National Institutes of Health, Bethesda, Md. 20014.

Laboratory of Molecular Diseases of the National Heart Institute in Bethesda. A number of interested physicians in the Greater Washington Area and their patients have already been participating in this large-scale study of genetic abnormalities and all of their available relatives. The number of phenotypically abnormal subjects who have been classified now exceeds 500.

In the system evolving at the Clinical Center hyperlipidemia is translated into hyperlipoproteinemia.^{1,2} Relatively simple methods for lipoprotein analyses are used, based primarily on paper electrophoresis. The abnormal lipoprotein patterns and the symptom-complexes associated with them have been designated by a temporary classification system as "Types I through V." Some of these "types" correspond to disorders known by other names, but older nomenclature has proved inadequate to cope with heterogeneity revealed by more intensive study. A full description of the classification system has recently appeared.² The following brief sketches of 5 familial syndromes will be presented as a ready guide to assist in their recognition. Each syndrome has here been fitted with a colorful title. Although the risks of generalization are all too apparent, it is remarkable how closely the phenotypes tend to conform to such trivial taxonomy.* Some values for plasma cholesterol and glycerides are presented in table 1 that provide the definition of abnormal currently used in the NIH studies.

TABLE 1: Plasma Lipid and Lipoprotein Concentrations in Normal Subjects

Age	Total Cholesterol	Triglyceride
	(mg. per 100 ml. plasma)*	
0-19	120-230	10-140
20-29	120-240	10-140
30-39	140-270	10-150
40-49	150-310	10-160
50-59	160-330	10-190

* Limits between which 90 per cent of normal subjects should be expected to fall. For convenience, data from both sexes are combined even though some small significant differences exist in most age decades.

The Case of the Colicky Child (Type I)

Familial hyperchylomicronemia is the rarest of the forms of familial hyperlipoproteinemia. The

* Physicians with patients who satisfy the criteria for "suspicion" of a given phenotype as herein described are welcome to contact the author or Dr. Robert Levy at the National Heart Institute, should they desire assistance in confirming the diagnosis. Analytical facilities are limited, and acceptance of samples generally requires evidence of familial involvement.

earliest familial example was described in Baltimore 30 years ago,³ and at present only 4 patients (from 2 families) are known in the Washington area. There is persistent severe hyperlipemia (hyperglyceridemia) due to inability to clear ingested fat from the blood. Only the homozygous abnormal genotype is recognizable. It is usually detected before 10 years of age, sometimes in the very young infant because of colicky bouts of abdominal discomfort or the appearance of eruptive xanthomata. These latter are yellow papules with a reddish base that tend to come out in crops at any location, even on mucous membranes. They may disappear completely and rapidly, and reappear at intervals. On a regular diet the plasma cholesterol is elevated from 250 mg. per 100 ml. to greater than 1,000, and the plasma becomes creamy-white. Sometimes the triglycerides are elevated to a remarkable extent (100- to 1,000-fold over normal). This may be accompanied by lipemia retinalis, hepatosplenomegaly, and foam cells in the bone marrow. The disorder is due apparently to inherited deficiency in lipoprotein lipase, an enzyme required for normal removal from plasma of chylomicron glyceride. The most severe complications are recurrent pancreatitis; it is not known whether accelerated atherosclerosis is present. If the patient adheres to a diet in which fat makes up not more than 25 per cent of calories he will remain free of abdominal pain for long periods.

RECOGNITION OF THE TYPE I PHENOTYPE

A. Suspicion

1. Creamy plasma with glycerides elevated to more than 1,000 mg. per 100 ml. due to chylomicrons† (plasma left at 4° overnight will have a cream layer over a clear infranate when hyperlipemia is due solely to chylomicrons) in a child or young adult who does not have insulin-dependent diabetes or evidence of other primary disease, except possible pancreatitis; the hyperlipemia clears dramatically on removing all fat from the diet.
2. Similar involvement of 1 or more siblings is helpful in diagnosis but may not be present.

B. Confirmation

1. Ascertainment of severe chylomicronemia

† Here and with the other types the index lipoprotein pattern should be established on a sample of plasma or serum obtained 12 to 14 hours after the last meal and while the patient is on a normal diet.

on a regular diet and typical involution of the lipoprotein pattern on a no-fat diet.

2. Demonstration of low plasma postheparin lipolytic activity.⁴

The Case of the Nodular Tendon (Type II)

Type II is one of the most prevalent forms of familial hyperlipoproteinemia. It is more commonly known as "essential familial hypercholesterolemia," but unfortunately the name is also sometimes given to the quite different Type III disorder. There is no dearth of affected kindreds in the Washington area, and the number of patients still undetected is probably large. The dramatic manifestations are well known: tendon, tuberous and palpebral xanthomata, arcus cornea, and accelerated atherosclerosis, especially of the coronary arteries. Less well recognized is the fact that hypercholesterolemia, in the form of hyper-beta-lipoproteinemia, usually precedes their development by many years. Reduction of cholesterol in the diet to 100–200 mg. per day (1 egg yolk contains about 300 mg. of cholesterol) will maintain the beta lipoprotein concentrations on a level considerably lower than does the usual American diet. Although lipoprotein levels are rarely, if ever, returned to normal, it is reasonable to presume that the rate at which atherosclerosis develops can be retarded by early application of restrictive diets.

Hyperlipoproteinemia can be detected in the first years of life in most affected subjects, sometimes at birth by examination of cord blood. The disorder is most severe in subjects who have inherited an abnormal gene from each parent. Such homozygotes are fortunately rare. In them atherosclerosis is so severe it may result in cardiovascular death in childhood. It is still common to find that the children or other relatives of patients who are florid examples of this syndrome have never been tested for hyperlipoproteinemia. The detection of the Type II phenotype is relatively simple if one presupposes that all families with similar manifestations have the same disorder. Mutations at several different genetic loci may eventually be discovered to be involved.

DETECTION OF THE TYPE II PHENOTYPE

A. Suspicion

1. Hypercholesterolemia, with clear or only slightly opalescent plasma, in a subject of any age who has no other disease (most particularly, hypothyroidism) which

might secondarily elevate lipoproteins, and either

2. Tendon or tuberous xanthomata, or
3. The same lipid or xanthomatous abnormalities in at least 1 parent, sibling or child (in the usual case, half of all such relatives will be similarly affected)

B. Confirmation

1. Ascertainment that the hypercholesterolemia is due to an abnormal increase in beta lipoproteins of normal density (S_{f0-20}) by either electrophoresis or ultracentrifugation. A concomitant modest increase in pre-beta lipoproteins and plasma triglycerides is compatible with the diagnosis.
2. In patients whose beta lipoprotein levels are outside the normal range but not above 250 mg. per 100 ml. (as beta lipoprotein cholesterol) phenotypic ascertainment requires demonstration of familial involvement.

The Case of the Yellow Palms (Type III)

This fascinating syndrome can sometimes be diagnosed at a glance. A patient usually beyond the age of 20, and more often a man than a woman, may first come to his physician either because of coronary or peripheral artery disease. Sometimes hyperlipidemia is detected fortuitously during a routine examination. The serum cholesterol is elevated; this is accompanied by hyperglyceridemia, as indicated by moderate lactescence in the plasma. If measured repeatedly at weekly or monthly intervals, the concentrations of both lipids will be observed to fluctuate greatly, the cholesterol varying from near normal to over 1,000 mg. per 100 ml. A tip-off to the diagnosis that is found in the majority of cases often goes undetected by either patient or physician. This is the presence of raised yellow deposits in the creases of the palms (plane xanthomata). Sometimes these are accompanied by single or confluent lesions on the elbows that have a yellow center and erythematous base ("tubero-eruptive" xanthomata). Although tendon and palpebral xanthomata, as well as corneal arcus, can also be present, this disorder is different from the Type II syndrome. In contrast to Type II, abnormal glucose tolerance and hyperuricemia are usually present in Type III. Type II and Type III have never been seen in the same families.

In the Type III syndrome there are increased concentrations of beta lipoproteins that have an abnormally low density. In the ultracentrifuge

this appears as increased amounts of S_f 20–400 lipoproteins that can be shown to have beta instead of their normal pre-beta mobility on electrophoresis.² The metabolic basis for the peculiar lipoprotein anomaly is yet to be uncovered. It is most significant that in Type III the low cholesterol diets which are also designed to hold body weight in the normal range can effectively maintain a reduction in plasma lipids to nearly normal values. The xanthomata melt away, a fact that lends hope that dietary management may also favorably affect the development of atherosclerosis. In contrast to Type II, both parents and all young children of the *propositus* may be normal. The exact mode of transmission is still to be settled, however; the inheritance of this defect is probably that of an autosomal recessive characteristic. The disorder, again, may be due to more than 1 gene. From current experience, one may conclude that a few families affected with Type III still remain undetected in the Washington area. The effectiveness of both diet control and current experimental drug therapy commends all physicians to be on the lookout for other examples of the “case of the yellow palms.”

DETECTION OF THE TYPE III PHENOTYPE

A. Suspicion

1. Hypercholesterolemia with lactescent plasma (hyperglyceridemia), widely variable with time, especially when associated with
2. Palmar xanthomata and tubero-eruptive xanthomata on the elbows (in the absence of primary hepatic disease, dysglobulinemia or uncontrolled diabetes mellitus), and often
3. Similar findings in siblings.

B. Confirmation

Demonstration of increased beta lipoproteins having abnormally low density. This currently requires ultracentrifugation and electrophoresis.

The Case of the “Mild Diabetic” (Type IV)

The fourth type of lipoprotein pattern is “endogenous” hyperlipemia, characterized by an increase in lipoproteins that have pre-beta mobility on electrophoresis and are of “very low density” (<1.006 or $>S_f$ 20) in the ultracentrifuge. It is common, the precise frequency dependent upon the upper limits arbitrarily selected for triglyceride concentrations in populations of different age and sex. It likewise may be due to many

causes, from hypothyroidism to multiple myeloma. When all other causative diseases have been excluded, the hyperlipemia in some of the remaining patients is demonstrably familial and presumably often genetically determined. Just how many mutant genes are responsible will never be determined until the families of affected patients are examined more widely and systematically.

A particular familial syndrome is common among *propositi*. They are nearly always adults and often overweight. Most will have mild diabetes, which is rarely ketotic or requiring exogenous insulin. Occasionally the hyperlipemia becomes severe enough to cause showers of eruptive xanthomata to appear on the skin; usually detection is accidental or follows examination for glycosuria. These patients include some whose glyceride concentrations are abnormally responsive to high carbohydrate diets (carbohydrate-induced hyperlipemia), but caloric excess looms larger as a precipitating factor. Sometimes dramatic remission in hyperlipemia and glucose intolerance are sustained by return to ideal body weight.

The number of patients with primary Type IV hyperlipoproteinemia who represent familial disease is appreciable. In the Clinical Center study similar lipoprotein abnormalities have been found in about half of the parents and siblings of adult *propositi*.² Young children are much less likely to show the defect, and expression seems clearly to be age-dependent. Pursuit of Type IV patterns in involved families is of importance, not only for the purpose of increasing our understanding of diabetes and fat metabolism, but because accelerated atherosclerosis appears to be a definite hazard to some bearers of the abnormal genes.

DETECTION OF THE TYPE IV PHENOTYPE

A. Suspicion

1. Hyperlipemia (elevated glyceride concentrations and lactescent plasma) in an adult on a regular diet, and
2. Demonstration of the same abnormality in a parent or sibling.

B. Confirmation

Demonstration of familial hyperpre-beta lipoproteinemia.

The Case of the Recurrent Laparotomy (Type V)

Still another syndrome to be distinguished bears an obscure relationship to Type IV and, like it, is complex in etiology. Sometimes it occurs secondary to other diseases like insulin-dependent

diabetes, pancreatitis or alcohol excess, but Type V also appears in families with sufficient frequency to indicate the presence of 1 or more abnormal genes. The familial cases often follow a pattern like this. An adult, who may have had his first symptoms in the late teens, will have recurrent bouts of abdominal pain. These will often be severe enough to mimic various surgical emergencies, and the abdomen will be explored, perhaps more than once. Chemical indices of pancreatitis are sometimes but not invariably present, and usually the only abnormality seen upon laparotomy is milky peritoneal fluid. On various diets the patient's plasma is persistently lactescent, and he will usually have observed that high fat feedings seem to bring on the attacks. Glucose intolerance and hyperuricemia are the rule; hepatosplenomegaly and eruptive xanthomata are common.

This is a mixture of endogenous and exogenous hyperlipemia (chylomicrons and increased pre-beta lipoproteins). Low-fat diets decrease the chylomicrons but may increase the pre-beta lipoproteins which carry endogenous glycerides. Empirical observations in each case can usually lead to a diet that will minimize hyperlipemia and greatly decrease the frequency of the abdominal attacks. A mixture of Type V and Type IV patterns are found in the majority of adult relatives of the *propositi*. The distribution suggests that the Type IV and Type V syndromes are related but not genotypically identical.

DETECTION OF THE TYPE V PHENOTYPE

A. Suspicion

1. Hypercholesterolemia and severe hyperlipemia in an adult (plasma left standing overnight at 4° will develop a cream layer

overlying a milky infranate), often associated with bouts of abdominal pain, glycosuria, and sometimes recurrent pancreatitis, and

2. Hyperlipemia in at least 1 parent, sibling, or adult child.

B. Confirmation

Demonstration of the Type V lipoprotein pattern in the *propositus* (on a regular diet) and either a Type IV or Type V pattern in at least 1 adult blood relative.

In all of the syndromes of hyperlipoproteinemia that have been described 1 feature stands out. It is rarely possible to ascertain the phenotype without some examination of the kindred of the *propositi*. The physician's workup is thus only complete after he has directed attention to appropriate relatives. While the development of more specific diagnostic tests will continue to reduce this necessity in a given disorder,¹ it is worth noting that in this age of molecular disease it is still the physician closest to the family who holds the key to useful application of genetic discoveries.

References

1. FREDRICKSON, D. S., AND LEES, R. S.: Familial hyperlipoproteinemia, in Stanbury, J. B., Wyngaarden, J. B., and Fredrickson, D. S., editors: *The Metabolic Basis of Inherited Disease*, 2nd ed. New York: McGraw-Hill, 1966, p. 429.
2. FREDRICKSON, D. S., LEVY, R. I., AND LEES, R. S.: Fat transport in lipoproteins: an integrated approach to mechanisms and disorders. *New Eng. J. Med.*, 1967, **276**, 34.
3. HOLT, L. E., JR., AYLWARD, F. X., AND TIMBRES, H. G.: Idiopathic familial lipemia. *Bull. Hopkins Hosp.*, 1939, **64**, 279.
4. FREDRICKSON, D. S., ONO, K., AND DAVIS, L. L.: Lipolytic activity of post-heparin plasma in hyperglyceridemia. *J. Lipid Res.*, 1963, **4**, 24.

Androgen Excess in Women

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EXCESSIVE ANDROGEN PRODUCTION in women can not only cause distressing bodily changes but may, on occasion, be the harbinger of neoplastic disease. In most cases the site of the disease can be established by simple diagnostic maneuvers, although the unraveling of the pathologic physiology requires sophisticated techniques. I shall discuss briefly the genesis of the masculinizing syndromes in the light of recently acquired knowledge.

It seems probable now that hirsutism is a manifestation of mild androgen excess and may be the first sign of developing masculinization. As the level of blood androgen increases, signs of virilization appear with varying rates and severity, conditional on individual sensitivity. These signs of virilization include male pattern baldness, temporal hair recession, hirsutism in the beard and mustache area, deepening of the voice, clitoral hypertrophy, and acne. Thus the occurrence of hirsutism, although usually benign and self-limited, can presage severe disturbances of body form and function.

The current hypothesis, supported by many data, is that the effective androgen in man is testosterone and that other steroids secreted by the endocrine glands are androgenic because of their conversion to testosterone. It is instructive to compare the production rates of testosterone and some of its precursors between men and women (table 1). In contrast with many of the measurable differences between the sexes, there is no overlap between the ranges of testosterone levels or production rates. The only steroid of this group whose level is higher in women is androstenedione, and it seems probable that this difference is due to ovarian secretion of androstenedione.

Although not all of the possible plasma precursors of testosterone have been measured, it is estimated that 50 to 60 per cent of the plasma testosterone of women is derived from plasma androstenedione.^{1, 2} Dehydroepiandrosterone and its sulfates are rarely important sources of plasma testosterone. Since androstenedione is secreted

normally by the ovary and the adrenal cortex, hyperfunction of either gland can account for elevated plasma testosterone levels. In addition, testosterone itself is secreted by the normal ovary³ and by the adrenal cortex in some hirsute women.⁴

It is difficult to state with certainty at what plasma testosterone level virilization will occur, but we have observed masculinization at plasma levels between 0.2 and 0.3 μ g. per 100 ml. To maintain such a plasma level requires the secretion of only a few mg. of testosterone daily. Since about 50 per cent of testosterone is excreted as urinary 17-ketosteroids, the secretion of this amount of testosterone would be impossible to appreciate from even repeated careful estimation of urinary 17-ketosteroids. Realization of this fact is essential for the differential diagnosis of virilizing syndromes.

TABLE 1: Testosterone Production Rates and Plasma Levels

	Men	Women
Testosterone production rate (μ g./24 hr.)	7,000	220
Plasma levels (μ g./100 ml.)		
Testosterone	0.7 (.4-1.1)	0.035 (0.02-0.07)
Androstenedione	0.13 (0.08-0.2)	0.17 (0.09-0.21)
Dehydroepiandrosterone	1.3 (0.6-2.0)	1.0 (0.5-1.7)
Dehydroepiandrosterone sulfate	100 (30-200)	60 (20-100)

The normal ovary possesses all of the enzyme systems necessary for testosterone synthesis, and this has been demonstrated in vitro with a variety of precursors.⁵ Although the adrenal cortex possesses the same enzyme systems, its capacity for testosterone synthesis is considerably more limited than that of the ovary. This difference is reflected in the steroid synthetic activity of tumors derived from each gland. Thus, virilizing ovarian tumors such as arrhenoblastoma, hilus-cell tumor, Brenner tumor, and virilizing luteoma of pregnancy have been shown to have the capacity to

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synthesize testosterone. In general, when these tumors cause virilization, urinary 17-ketosteroid excretion remains normal because a virilizing amount only of testosterone is secreted. By contrast, in virilizing disorders of the adrenal glands, such as tumors or hyperplasia, there is always a high 17-ketosteroid excretion. In these cases the plasma testosterone is derived in large part from precursors which are secreted in such large amounts that the relatively small rate of conversion to testosterone is sufficient. Since these precursors of testosterone are excreted mainly as 17-ketosteroids the urinary ketosteroid levels are high.

It is therefore apparent that the simple measurement of urinary 17-ketosteroid excretion will divide quite accurately virilization due to either ovarian or adrenal disease. I am unaware of a single well-studied case of virilization due to adrenal disease in which repeated urinary 17-ketosteroid levels were normal. The converse has not been true; a minority of patients with ovarian tumors, particularly with arrhenoblastomas, have had high urinary ketosteroid excretions.

Diseases of the adrenal cortex causing virilization are limited to tumors, usually carcinoma, and congenital adrenal hyperplasia. The diagnosis of adrenal cancer has been discussed fully,⁶ but the single most important diagnostic feature is the ability of exogenous corticoids to suppress ketosteroid excretion. The autonomous tumor is not influenced by ACTH and is therefore unaffected by exogenous corticoids. In adrenal hyperplasia, on the other hand, the adrenal cortex is under the control of pituitary ACTH, and exogenous corticoids will reduce promptly the ketosteroid excretion. In both diseases the plasma testosterone level has been high and plasma androstenedione levels have been proportionately increased. It has been shown that the source of the plasma testosterone in children with congenital adrenal hyperplasia is plasma androstenedione, arising from adrenocortical activity.

The ovary is a complex organ with several different functional structures, the follicle, the corpus luteum, the stroma, and the hilar Leydig cells. Except for the corpus luteum, the other tissues and tumors derived from them can synthesize testosterone. Virilization has been associated with the following ovarian tumors: arrhenoblastoma, hilus-cell tumor, masculinovoblastoma or lipid-cell tumor, thecoma, Brenner tumor, virilizing luteoma of pregnancy, gonadoblastomas, and germinomas. Whenever these patients have been studied, plasma testosterone levels have been ele-

vated. The still incomplete data suggest that these tumors secrete testosterone.

Virilization may be caused by Leydig cell hyperplasia of the ovary, thecomatosis with stromal hyperplasia, and polycystic ovarian disease. The last 2 conditions may be variants of a single disease. The ketosteroid excretion has been normal, plasma testosterone high, and, in 1 case of thecomatosis the plasma testosterone was suppressed by stilbestrol,⁷ suggesting functional dependence on pituitary gonadotropins.

The largest group of patients with increased androgen production who are seen by the physician are those women with hirsutism of varying severity. The solution of this problem has been difficult because of earlier inadequate methods of analysis and because the measurable changes in androgen metabolism are much less than those associated with masculinization. A somewhat simplified and personal assessment of the nature of the problem follows.

The 2 major categories of hirsutism are those associated with either adrenal or ovarian disease. Ketosteroid excretion is normal or only slightly elevated in both groups. The syndrome of polycystic ovaries has been extensively discussed, and only a few salient features related to androgen metabolism will be discussed. It has been shown that these ovaries secreted large amounts of androstenedione⁸ and that the plasma testosterone averaged 0.1 $\mu\text{g.}$ per 100 ml. in a small series.² There is thus good evidence of hypersecretion of androgen by the ovary. The mechanism of development of this ovarian disease is not understood, but its results can now be evaluated. Rarely, masculinization has occurred with polycystic ovarian disease due presumably to the secretion of larger amounts of testosterone and its precursors.

The larger group of women with hirsutism have regular or irregular menses but have normal ovaries histologically. Suppression of the adrenal cortex by dexamethasone caused a substantial decrease in the elevated urinary testosterone levels⁹ and after months of therapy produced some diminution of hirsutism. Our findings of elevated plasma testosterone levels (0.08 $\mu\text{g.}$ per 100 ml.) and androstenedione levels (0.28 $\mu\text{g.}$ per 100 ml.) in a group of these subjects² and their suppressibility with dexamethasone substantiate the adrenal origin of these steroids.

It should not be concluded from this brief résumé that hirsute women should receive glucocorticoids. The adrenal cortex should first be established as the site of the excess androgen production and it should then be shown that it is possible to

suppress this with physiologic amounts of glucocorticoids. Thus, measurement of urinary or plasma testosterone levels before and repetitively during therapy is essential. This must be so because the physician cannot undertake to suppress adrenocortical function for prolonged periods of time without objective evidence of the efficacy of therapy.

Conclusions

The resurgence of interest in androgen physiology due to development of analytical methods has produced a significant increase in our understanding of virilization. It seems probable that simplification of methods will make them more easily available. In view of the pace of development of knowledge about steroid synthesis and action, it may be predicted that agents will be developed that will be able to either inhibit the synthesis of the important androgenic steroids or to antagonize their action on peripheral tissues.

References

1. HORTON, R., AND TAIT, J. F.: Androstenedione production and interconversion rates measured in peripheral blood and studies on the possible site of its conversion to testosterone. *J. Clin. Invest.*, 1966, **45**, 301.
2. BARDIN, C. W., AND LIPSETT, M. B.: Testosterone and androstenedione blood production rates in normal women and women with idiopathic hirsutism, or polycystic ovaries. *Ibid.* (May, 1967).
3. HORTON, R., ROMANOFF, E., AND WALKER, J.: Androstenedione and testosterone in ovarian venous and peripheral plasma during ovariectomy for breast cancer. *J. Clin. Endocr.*, 1966, **26**, 1268.
4. BURGER, H. G., KENT, J. R., AND KELLIE, A. E.: Determination of testosterone in human peripheral and adrenal venous plasma. *Ibid.*, 1964, **24**, 432.
5. RICHARDSON, G. S.: Ovarian physiology. *New Eng. J. Med.*, 1966, **274**, 1008.
6. LIPSETT, M. B., HERTZ, R., AND ROSS, G. T.: Clinical and pathophysiologic aspects of adrenocortical carcinoma. *Amer. J. Med.*, 1963, **35**, 374.
7. BARDIN, C. W., LIPSETT, M. B., EDGCOMB, J., AND MARSHALL, J. R.: Studies of testosterone metabolism in a patient with masculinization due to stromal hyperthecosis (in preparation).
8. MAHESH, V. B., AND GREENBLATT, R. B.: Steroid secretions of the normal and polycystic ovary. *Recent Progr. Hormone Res.*, 1964, **20**, 341.
9. NICHOLS, T., NUGENT, C. A., AND TYLER, F. H.: Glucocorticoid suppression of urinary testosterone excretion in patients with idiopathic hirsutism. *J. Clin. Endocr.*, 1966, **26**, 79.

Patients Needed for Studies at Clinical Center

"Chediak-Higashi syndrome." The coöperation of physicians is requested in the referral of patients with the highly suspicious or proven diagnosis of "Chediak-Higashi syndrome" for a study being conducted at the Clinical Center of the National Institutes of Health. This study is a coöperative effort of 3 Institutes: National Cancer Institute, National Institute of Allergy and Infectious Diseases, and National Institute of Dental Research.

The purpose of this investigation is to relate the behavior of the patients' lymphocytes and the characteristics of their lysosomes to the clinical manifestations of the disease.

Patients admitted will be evaluated for their response to chemotherapy. Upon completion of the study, the patient's referring physician will be contacted concerning indications for further treatment.

Physicians interested in having their patients considered for admission to this study may write or telephone Dr. Stanley D. Handmaker, Clinical

Center, Room 2-B-10, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 62152.

Colonic Neoplasms. The coöperation of physicians is also requested in the referral of patients with colonic neoplasms for immunological studies being conducted by the Surgery Branch of the National Cancer Institute at the Clinical Center.

Needed for these studies are patients who have familial polyposis or villous adenoma, and a limited number with adenomatous polyps and invasive malignant disease of the colon and rectum. Using various immunological techniques, selected patients will be extensively investigated both pre- and postoperatively.

Physicians interested in having their patients considered for admission to these studies may write or telephone Dr. Alfred S. Ketcham, Clinical Center, Room 10-N-116, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 64164.

The Clinical Significance of Hyperuricemia

J. EDWIN SEEGMILLER, M.D.*

IN RECENT YEARS there has been a resurgence of interest in the serum urate concentration as one component of the so-called "atherogenic index." This fact coupled with the introduction of automated procedures for determination of urate in serum has resulted in the discovery of hyperuricemia in an increasing number of patients who give no history or show no clinical stigmata of gouty arthritis. Such a discovery always raises 2 questions: (1) What is the clinical significance of the hyperuricemia in this patient? and (2) Should any attempt be made to control it by drug administration?

Since we have at our disposal drugs that are very effective in controlling hyperuricemia it is important to decide whether or not treatment is indicated. The uricosuric drugs, probenecid (Benemid®) and sulfinpyrazone (Anturane®), have proven to be very effective in controlling hyperuricemia in gouty arthritis,¹ and more recently another drug, allopurinol (Zyloprim®), which blocks the formation of uric acid,^{2, 3} has become available.

Of prime importance in evaluating the meaning of a given serum urate is the fact that the numerical value obtained for any given serum is dependent upon the particular method that is used in its determination. Consequently, reference must be made to the normal range for the particular method employed. Reasons for these variabilities in the colorimetric procedures are the varying amounts of urate that are precipitated during removal of the protein and the presence of substances other than uric acid that react with the chromogen used for color development. These sources of error are avoided in the enzymatic spectrophotometric method for determination of true uric acid which at the present time is in use only as a research laboratory procedure.⁴ The data presented in the following sections were obtained by the use of this method for determining true serum urate, but values can be translated into comparable values in the colorimetric method available to the physician simply by comparing

the mean values and the range of normal values for the 2 procedures.

All of the evidence available at present indicates that the clinical manifestations of gout are directly attributable to physical properties of the uric acid molecule rather than chemical properties.⁵ The primary properties of the uric acid molecule which lead to clinical problems are its sparing solubility and its weakly acidic nature. As a result of its being a weak acid it exists almost entirely as the monosodium urate salt at the pH of body fluids. In the presence of hyperuricemia, crystals of monosodium urate monohydrate may therefore precipitate in and about the joints and tendons and in the parenchyma of the kidney to give rise to the pathologic processes that we recognize clinically as gouty arthritis. At the lower pH existing in the urinary tract a larger portion of the molecules are present as free uric acid. Consequently renal calculi composed of free uric acid are precipitated from supersaturated urine. The incidence of such calculi in gouty patients is about 1,000 times greater than in the general population.

The significance of hyperuricemia in the pathogenesis of gouty arthritis is best appreciated by comparing the distribution of serum urate concentration in the human species with the calculated limit of solubility of urate in serum. The mean true serum urate concentration determined by an enzymatic method on a group of Army inductees⁶ was 5.1 mg./100 ml. (with a standard deviation of 0.96) and is remarkably close to the theoretical limit of solubility of urate in serum that can be calculated from the solubility product of 6.4 mg./100 ml.⁷ Since the limits of the normal range for any chemical value are generally taken as 2 standard deviations from the mean, the normal range of true urate concentration in serum for the human male population is 3.2 to 7.0 mg./100 ml. By definition, however, this range includes only 95 per cent of the population; therefore, 2½ per cent of the normal population will show serum urate concentrations greater than 7 mg./100 ml., and 2½ per cent will show serum urate concentrations below 3.2 mg./100 ml.

An even larger proportion of the population carries a serum urate level above the theoretical limit of solubility. However, we know that urate

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tends to form fairly stable supersaturated solutions⁷ so that only a very small portion of individuals whose urate is beyond the limit of solubility will actually precipitate urate crystals and develop the clinical features of gouty arthritis. Evidently there are other constitutional factors which seem to protect against this deposition.

In order for tophaceous deposits to be resolved the serum urate concentration must be brought to values below the saturation limit. Clinical experience of the past 15 years has borne out the beneficial effects of bringing the serum urate of the gouty patient to the normal range.^{8, 9} The tophi are resolved, new tophi are prevented from forming, and eventually the acute attacks are completely prevented. However, it is worth noting that lowering the serum urate concentration to the normal range with uricosuric drugs or by blocking the formation of uric acid is not usually of immediate benefit for control of a given acute attack of gout. In fact, initiation of treatment with one of these drugs often makes an acute attack worse or tends to precipitate one. However, this tendency to develop acute attacks can be suppressed by administering colchicine along with the uricosuric drug during the first few weeks or months of uricosuric therapy.

The discovery of hyperuricemia in a patient who has no history or clinical evidence of gout should alert us to consider several possible interpretations. That which immediately comes to mind is that the patient may be a hyperuricemic but otherwise unaffected relative of a gouty patient. Since about one-fourth of such relatives show hyperuricemia, a careful family history is indicated. As another obvious possibility, the patient could represent merely the upper end of the normal serum urate distribution curve and belong to the 2½ per cent of the normal population that by definition show hyperuricemia.

Hyperuricemia from the renal retention of uric acid is a side-effect of many drugs in common use. Salicylates at doses less than 2 to 3 Gm./day cause such retention, presumably by blocking the tubular secretion of uric acid. A similar mechanism accounts for the hyperuricemia produced by the diuretic drugs chlorothiazide, hydrochlorothiazide, ethacrynic acid, and bendroflumethiazide used in the treatment of hypertension. Pyrazinamide used in the treatment of tuberculosis and pyrazinoic acid also cause a marked renal retention of uric acid by blocking the tubular secretory process. Drugs that produce an efferent vasoconstriction such as epinephrin, norepinephrin, and angiotensin II produce a striking diminution in the clear-

ance of both uric acid and hippuric acid without altering inulin clearance. Evidently this reflects an alteration in the blood flow through the kidney.

Hyperuricemia can be the first indication of a more basic pathologic process. During recent years hyperuricemia has been found to be associated with an increasing number of human disease states that should be considered in evaluating the hyperuricemia. In fact, examples are known in which development of gouty arthritis has been the presenting symptom of one of the serious hematologic disorders. These disorders include leukemia, polycythemia vera, either primary or secondary, lymphoblastoma, hemolytic anemia, sickle-cell anemia, pernicious anemia, thalassemia, myeloid metaplasia, multiple myeloma, nontropical sprue, and Waldenström's hyperproteinemia.¹⁰

Advanced renal damage from a variety of primary causes can give rise to hyperuricemia by impairment of the renal excretion of uric acid. This is usually not seen during the early phases of development of renal disease because a modest renal impairment is compensated for by an increase in the percentage of filtered urate that is excreted. Therefore it is usually only in the late stages in which glomerular function is grossly impaired that the total excretion of uric acid is diminished. An increased serum creatinine concentration usually provides a more sensitive index of modest degrees of renal impairment than does blood urea nitrogen concentration. Renal function tests can be of help in determining the extent to which renal disease may be a contributing factor in hyperuricemia. Lead poisoning has long been known to be associated with the development of gouty arthritis in patients who have no family history of the disease. Emmerson¹¹ has recently presented evidence that hyperuricemia and gout may occur as late manifestations of lead poisoning in childhood.

An association of hyperuricemia with hypertension has been noted by a number of investigators, but the mechanism for its development is not entirely clear. There is some evidence that a diminished renal excretion of uric acid may account for the hyperuricemia in this disease. Myocardial infarction has long been known to be associated with an increased incidence of hyperuricemia, but only recently has evidence accumulated that among hyperuricemic individuals there is a greater risk of the development of myocardial infarction. Furthermore, in hyperuricemic individuals who have developed gouty arthritis the risk of myocardial infarction is even greater.¹² These results seem at variance with the reports that patients with gout have a normal life expectancy.

In recent years hyperuricemia has been found to be associated with a variety of heredity disorders.⁵ Children with Down's syndrome (mongolism) have a higher serum urate than nonaffected children. Patients with Type I glycogen-storage disease (with absence of glucose-6-phosphatase) show a marked hyperuricemia, and if they live to adult life gouty arthritis becomes one of their major problems. The primary defect in carbohydrate metabolism of this disease gives rise to hyperuricemia and gout by reason of a renal retention of uric acid induced by the lactic acidemia and the ketonemia associated with this disease, as well as by an enhanced purine biosynthesis.¹³

A sex-linked familial neurologic disorder with spasticity, choreo-athetosis, and mental retardation recently described by Lesch and Nyhan¹⁴ is associated with the most extreme overproduction of uric acid that has yet been detected. A striking clinical feature of the disease is a compulsive biting with mutilation of the patient's lips and the ends of his fingers. This is not the result of anesthesia and is accompanied by considerable pain but is a behavior over which the patient has no control. Some of these children have developed gouty arthritis before their death in early puberty. Kidney damage from gouty nephropathy has been a factor contributing to their death.¹⁵

A variety of endocrine disorders have been found associated with hyperuricemia. These include hyper- and hypoparathyroidism and myxedema, as well as adrenalectomy for hypertension. Obese patients also show a tendency to hyperuricemia, but the metabolic basis has not been determined. Idiopathic hypercalciuria is also associated with an increased incidence of hyperuricemia. The association of hyperuricemia with psoriasis seems to be related in part to an enhanced nucleic acid synthesis associated with the production of the psoriatic scales.¹⁶

Very low serum urate values are also of diagnostic significance in characterizing various metabolic disorders. The rare hereditary disorder xanthinuria is accompanied by a congenital absence of the enzyme xanthine oxidase which results in the excretion in the urine of the purine precursors of uric acid xanthine and hypoxanthine.¹⁷ The concentration of urate in serum is less than 1 mg./100 ml.; uric acid excretion is of the order of 5 mg./day or less. Some degree of xanthinuria is produced therapeutically for the treatment of gout and uric acid kidney stones by use of the xanthine oxidase inhibitor allopurinol. The amino-aciduria of Wilson's disease is accompanied by a marked increase in the renal excretion of uric acid and a

corresponding decline in the serum urate concentration, presumably as a result of the generalized renal tubular defect associated with the disease. The tubular abnormality associated with adult Fanconi syndrome also produces a hypouricemia, both in the hereditary variety¹⁸ and that acquired by ingestion of drugs such as outdated tetracycline.¹⁹ The renal clearance of uric acid at a rate significantly in excess of glomerular filtration rate has also been found as an isolated biochemical defect of the tubular transport mechanism in a very rare disorder which appears to be benign.²⁰

In evaluating the significance of the serum urate value one must also consider the possible influence of drugs that diminish serum urate concentrations. The most obvious ones, of course, are the uricosuric drugs, probenecid (Benemid) and sulfinpyrazone (Anturane), that are in general use for the management of gout. These agents inhibit the reabsorption of urate in the kidney tubule, while the drug allopurinol blocks the formation of uric acid from the oxypurines xanthine and hypoxanthine by inhibiting the enzyme xanthine oxidase. The anti-inflammatory drug phenylbutazone and its analogues, as well as adrenocorticotrophic hormone and to a lesser extent hydrocortisone, have also been noted to produce uricosuria. Uricosuric action also occurs as a side-effect of a great many other drugs that have been used in the treatment of a wide variety of conditions. These include salicylates at doses greater than 3 to 4 Gm./day, the tranquilizer chlorprothixene (Taraentan[®]), the anticoagulant drugs ethyl biscoumacetate (Tromexan[®]) and phenindione (Hedulin[®]), iodinated radiopaque dyes such as iodopyracet (Diodrast[®]) used in intravenous pyelography, the muscle relaxant zoxazolamine (Flexin[®]) which has now been removed from the market, and thiophenylpyrazolidine. The drug acetohexamide (Dymelor[®]) used in the treatment of diabetes also has a uricosuric action.

The question of when to treat hyperuricemia in the absence of gouty arthritis is frequently raised. With the increasing emphasis on the preventive aspects of medicine it seems reasonable to consider a program to prevent the development of gouty arthritis by treating hyperuricemic individuals as they are found. However, gouty arthritis is present in only 10 to 15 per cent of the hyperuricemic relatives of gouty patients. Conservative medicine dictates that we not submit all hyperuricemic patients to lifelong drug therapy merely to correct a chemical abnormality unless it is known to be the harbinger of a more serious medical problem. In most patients the acute attack of

gout provides a very compelling announcement of damage arising from urate deposits. However, recent population studies have shown that patients with very high concentration of urate in serum have a sufficiently great chance of developing gouty arthritis so that there is good reason for the institution of preventive therapy. When serum urate concentration is above 9.0 mg./100 ml. the chances of developing gouty arthritis are over 90 per cent,²¹ and then most rheumatologists initiate prophylactic therapy with uricosuric drugs. If uricosuric drugs fail to produce a serum urate in the normal range or if the patient is troubled by frequent uric acid renal calculi, use of allopurinol is justified.

Summary

Some of the considerations that go into the evaluation of the medical significance of hyperuricemia in medical practice have been considered. Hyperuricemia can be an indication of a more basic metabolic or endocrinologic disorder and should alert the physician to a more careful examination of his patient. Conditions under which uricosuric therapy or allopurinol treatment should be initiated as a prophylaxis in the hyperuricemic individuals without gout have been discussed.

References

1. SEEGMILLER, J. E.: Gout, in Conn, H. F., editor: Current Therapy, 16th ed. Philadelphia: Saunders, 1964, p. 301.

2. RUNDLES, R. W., AND OTHERS: Trans. Ass. Amer. Physicians, 1963, 76, 126.

3. KLINENBERG, J. R., GOLDFINGER, S. E., AND SEEGMILLER, J. E.: Ann. Intern. Med., 1965, 62, 639.

4. LIDDLE, L., SEEGMILLER, J. E., AND LASTER, L.: J. Lab. Clin. Med., 1959, 54, 903.

5. SEEGMILLER, J. E., LASTER, L., AND HOWELL, R. R.: New Eng. J. Med., 1963, 268, 712, 764, 821.

6. STETTEN, DEW., JR., AND HEARON, J. Z.: Science, 1959, 129, 1737.

7. SEEGMILLER, J. E.: Arthritis Rheum., 1965, 8, 714.

8. YÜ, T. F., AND GUTMAN, A. B.: Amer. J. Med., 1951, 11, 765.

9. BARTELS, E. C., AND MATOSSIAN, G. S.: Arthritis Rheum., 1959, 2, 193.

10. TALBOTT, J. H.: Medicine (Balt.), 1959, 38, 173.

11. EMMERSON, B. T.: Aust. Ann. Med., 1965, 14, 295.

12. HALL, A. P.: Arthritis Rheum., 1965, 8, 846.

13. ALEPA, F. P., HOWELL, R. R., KLINENBERG, J. R., AND SEEGMILLER, J. E.: Amer. J. Med., 1967, 42, 58.

14. LESCH, M., AND NYHAN, W. L.: Ibid., 1964, 36, 561.

15. SASS, J. K., ITABASHI, H. H., AND DEXTER, R. A.: Arch. Neurol. (Chicago), 1965, 13, 639.

16. EISEN, A., AND SEEGMILLER, J. E.: J. Clin. Invest., 1961, 40, 1486.

17. ENGLEMAN, K., AND OTHERS: Amer. J. Med., 1964, 37, 839.

18. BEN-ISHAY, D., DREYFUSS, F., AND ULLMANN, T. D.: Ibid., 1961, 31, 793.

19. FULOP, M., AND DRAPKIN, A.: New Eng. J. Med., 1965, 272, 986.

20. PRAETORIUS, E., AND KIRK, J. E.: J. Lab. Clin. Med., 1950, 35, 865.

21. HALL, A. P., BARRY, P. E., DAWBER, T. R., AND McNAMARA, P. M.: Amer. J. Med., 1967, 42, 27.

Professional Satisfaction among American, Australian and English Physicians*

A RECENTLY PUBLISHED STUDY¹ comparing opinions of a sample of American, Australian, and British physicians shows some interesting differences as to degree of satisfaction in the practices between these 3 countries.

If one begins with, "Are you satisfied with . . .," then the per cents of respondents by selected aspects of practice were:

Aspects of Practice	Very Satisfactory and Satisfactory		
	American	Australian	English
	Per cent	Per cent	Per cent
Freedom to prescribe and treat...	84.7	85.0	94.4
Relationship with professional association.....	81.8	70.0	68.0
Association with colleagues in present work situation.....	99.3	100.0	94.4
Relationship with hospitals.....	97.8	90.0	95.2
Time spent on clerical work.....	43.1	55.0	52.0
Opportunities for "keeping up" and further training.....	83.2	82.5	68.8
Status of medical research.....	91.2	12.5	60.0
General organization of medical services.....	91.2	65.0	63.2
Present money income.....	93.4	80.0	43.2
Present place of practice.....	98.5	100.0	89.6
Present physical facilities and equipment.....	94.2	85.0	72.8
Amount of time spent in practice each week.....	84.7	97.5	60.8
Doctor-patient relationship.....	89.8	100.0	80.0

* From Socio-Economic Report, 1967 (January) vol. 7, no. 1, published by the Bureau of Research and Planning of the California Medical Association.

¹ MONTAGUE, J. B., JR.: Professionalism among American, Australian, and English physicians. J. Health and Human Behavior, 1966 (winter), vol. 7, no. 4.

Recent Progress in the Biochemistry and Physiology of Acute Intermittent Porphyria

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THE PORPHYRIAS can be divided into 2 major groups, erythropoietic or hepatic, depending on whether the biochemical abnormalities of porphyrin metabolism originate in the marrow or liver.¹ The erythropoietic porphyrias can clearly be further subdivided into congenital erythropoietic and the more recently described erythropoietic protoporphyria.² The subdivision of the hepatic porphyrias is much more complex because there is some degree of overlap in biochemical and clinical findings among this group. For this reason there is no unanimity of opinion among authorities regarding the subdivision of the hepatic porphyrias. However, the classifications of Watson³ and Eales⁴ provide a working basis that is adequate for the present. These classifications are similar and subdivide the hepatic porphyrias into 3 main groups which have been given various names over the years:

A. Acute intermittent porphyria, Swedish genetic porphyria, pyrrolporphyria (dominant).

B. Porphyria variegata, mixed porphyria, South African genetic porphyria, porphyria cutanea tarda hereditaria, protocoproporphyria (dominant).

C. Porphyria cutanea tarda, symptomatic porphyria, uroporphorphyria, constitutional porphyria, porphyria cutanea tarda symptomatica.

Acute intermittent porphyria is a distinct clinical and biochemical disorder which is the only type of porphyria in which photocutaneous manifestations are not seen. The abnormalities of porphyria metabolism originate in the liver, whereas the clinical manifestations can all be explained by damage to various areas of the nervous system. The question as to how the biochemical abnormalities in the liver are related to the nervous system damage remains unanswered, and therefore abnormal biochemical mechanisms in the liver and nervous system will be discussed separately.

Description of the Disease

Acute intermittent porphyria is an inborn error of metabolism with an incidence which is probably higher than the 1.5/100,000 quoted in most areas,⁵ since many cases exist in unrecognized latent form. The studies of Waldenström⁶ have demonstrated a dominant mode of inheritance. The disease is somewhat more frequent in females. Biochemically it is characterized by the excessive excretion of porphyrin precursors, δ -amino-levulinic acid (ALA) and porphobilinogen (PBG). These compounds are the products of the first 2 enzymes of the heme biosynthetic pathway. While some increase of urinary uroporphyrin may be seen, it is not the diagnostic characteristic of the disease. The diagnosis is made by demonstration of the excess PBG in the urine which reacts with Ehrlich's aldehyde reagent (p-dimethyl-amino-benzaldehyde in 5 N HCl) to form a pink or red pigment which does not extract into butanol. The original test devised by Watson and Schwartz⁷ used chloroform, but butanol has been found to be more specific for PBG. The magnitude of the increase of PBG may not be sufficient to produce a clearly positive Watson-Schwartz test in asymptomatic patients. In this situation, column chromatographic methods for the measurement of ALA and PBG can be used.⁸ In rare instances negative Watson-Schwartz tests are seen in the presence of a considerable excess of PBG as a result of the presence in the urine of inhibitors of the Ehrlich reaction. In this situation the column chromatographic method can be used to demonstrate the excess PBG. Occasionally compounds such as Pyridium® which turn red or orange-red in strong acid will produce false positives. These can be detected by merely adding an equal volume of 5 N HCl to urine.

Clinically, acute porphyria has been aptly termed "the little simulator" by Waldenström.⁹ It is usually not evident biochemically or clinically before puberty and may exist in latent form throughout an entire lifetime. Certain factors can convert the latent disease to active form by precipitating episodes of acute neurologic dys-

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function characteristic of the disease. These factors include certain drugs (barbiturates, sulfonamides, griseofulvin), infections, and endocrine factors. The resulting manifestations may mimic a number of disorders. Abdominal pain is a common symptom and may be associated with nausea, vomiting, and constipation. Occasionally diarrhea occurs. The mechanism producing the gastrointestinal symptoms is thought to be autonomic neuropathy which causes imbalance in the autonomic innervation of the gut. This produces areas of spasm and pain which may be severe. The fact that ganglionic blocking agents such as Etamon® relieve the abdominal pain supports this concept. The effectiveness of chlorpromazine in relieving the abdominal pain of acute porphyria is probably due in large measure to its ganglionic blocking activity. Other autonomic manifestations include tachycardia, labile hypertension, postural hypotension, occasionally areas of vasoconstriction or vasodilatation of the skin, and sweating.

During an acute attack there may be rapid development of peripheral neuritis involving the extremities and cranial nerves. This may produce quadriplegia in 2 to 3 days. Bulbar involvement and respiratory paralysis may cause dysphagia and aspiration pneumonitis. Lesions have been demonstrated in other areas of the nervous system such as the cerebellum and spinal cord, but the clinical manifestations of these lesions are usually masked by the coexistence of peripheral neuritis. In some cases the major symptoms are extremity and/or back pain, without motor findings. This pattern may persist for months. Emotional disorders are also seen frequently in patients with this disease.

The recent studies in our laboratory have been concerned with the biochemical abnormalities in the liver and the role of the hypothalamus in acute porphyria.

Biochemical Studies of the Liver

The development of an experimental porphyria in animals which is biochemically similar to acute porphyria in man provided an excellent means of studying aspects of the disease which could not be readily approached in man. Schmid and Schwartz¹⁰ first used Sedormid® (allylisopropylacetylurea), and later Goldberg and Rimington¹¹ used its more soluble derivative allylisopropylacetamide (AIA) to produce experimental porphyria. In a study performed by Rose et al¹² it was found that the ability of AIA to produce experimental porphyria was a function of diet.

The original purpose of this study was to elucidate the biochemical mechanism which caused the increased porphyrin-precursor excretion. This entailed measurements of the activities of metabolic pathways and enzymes. In order to minimize the variation in the activities of these parameters in control animals it was decided to tube-feed both the control and porphyric animals the same amount of a balanced diet. This diet was given in generous amounts, and it was found that none of the animals given AIA became porphyric as judged by the Watson-Schwartz test. This puzzling observation was then studied in detail,¹² and it was demonstrated that increasing carbohydrate and/or protein intake decreased the incidence of a positive Watson-Schwartz test in animals given AIA. In other words, the incidence of experimental porphyria was reciprocally related to the intake of carbohydrate and/or protein. With sufficient intake of carbohydrate, none of the animals developed a positive Watson-Schwartz test when given doses of AIA which were maximally porphyrogenic. This led to a study of the effect of diet on the excretion of porphyrin precursors in patients with acute intermittent porphyria. When ALA and PBG were determined quantitatively by chromatographic methods it was found that the amount of these compounds in the urine decreased as the intake of carbohydrate and/or protein increased and vice versa.¹³

The mechanism by which diet produced this effect was unknown until a major discovery was announced by Granick and Urata.¹⁴ In experimental porphyria in guinea pigs produced by a dihydrocollidine derivative they found a marked increase of the hepatic level of ALA synthetase, the first and rate-controlling enzyme of the porphyrin biosynthetic pathway. This suggested that ALA synthetase is an inducible enzyme in liver, i.e., an enzyme whose rate of synthesis can be increased under certain circumstances to cause an increase in the level of the enzyme.

Through the use of inhibitors of protein synthesis, it has now been demonstrated that the increase of hepatic ALA synthetase which occurs in experimental porphyria produced by several different compounds is a result of increased synthesis of the enzyme.^{15, 16, 17} The findings in experimental porphyria suggested that the increased porphyrin-precursor excretion of acute porphyria in patients might result from an increased level of hepatic ALA synthetase. This has now been demonstrated.^{18, 19} It had previously been shown that glucose could block the induction of certain enzymes in microorgan-

isms,^{20, 21} a phenomenon which had been called the "glucose effect" or "catabolite repression."^{22, 23} This phenomenon coupled with the demonstration that hepatic ALA synthetase was markedly increased in acute porphyria led to the hypothesis that the effect of diet was an example of the "glucose effect" in man, i.e., that hepatic ALA synthetase was induced as a result of the genetic defect and that the induction could be blocked by glucose.

The fact that sufficient amounts of glucose can completely block the induction of hepatic ALA synthetase resulting from AIA^{24, 25} is strong evidence in support of this hypothesis. Thus acute intermittent porphyria represents the first example of a disease whose chemical manifestations result from overproduction of an enzyme and a disease in which the "glucose effect" is demonstrable. The question as to how the genetic defect causes the induction of hepatic ALA synthetase is not answered yet, but several possibilities are being examined.

Recent studies of biochemical genetics have provided evidence for the existence of several types of genes—"structural genes," which determine the structure of proteins, and "regulatory" or "control genes" which regulate the activity of structural genes.²⁶ Mutations of both types of genes are known in microorganisms, and the biochemical effects of both types of mutation have been studied in some detail. Many of the biochemical aspects of acute intermittent porphyria resemble those of operator-constitutive mutations in microorganisms. The pros and cons of attributing acute intermittent porphyria to an operator-constitutive mutation have been discussed previously.^{2, 18, 27} The other possibility is that there is no primary defect in a gene which controls ALA synthetase production directly, but that some other defect secondarily affects the control mechanism leading to overproduction of hepatic ALA synthetase.

Studies of the basic control mechanism of ALA synthetase and factors which affect it are in progress and have already provided a fascinating picture. Two mechanisms for controlling enzyme action have been extensively studied in various organisms. The first is feedback inhibition in which the end-product of a metabolic pathway directly inhibits the activity of 1 or more enzymes of the metabolic pathway. The second is repression of the synthesis of 1 or more enzymes of the pathway in which it is thought that the end-product of the pathway forms an "active repressor" which prevents the gene from producing

the enzyme. Both of these control mechanisms for ALA synthetase have been studied in liver, and the evidence of Granick²⁸ and Marver et al²⁹ suggests that feedback inhibition of ALA synthetase by heme does not play a significant role in the control of this enzyme in liver.

Granick,²⁸ Marver et al,³⁰ and Waxman et al³¹ have obtained clear evidence that repression of the synthesis of hepatic ALA synthetase occurs at much lower concentrations of heme than those necessary to produce direct inhibition of the enzyme. The current concept of the mechanism regulating hepatic ALA synthetase production is presented in figure 1 in which heme, the end-product of the pathway controlled by ALA synthetase, forms an active repressor which inhibits the genetically directed production of ALA synthetase. When hemin is injected intravenously

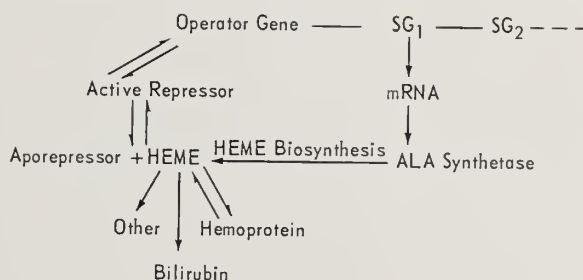


FIG. 1. Regulation of heme biosynthesis. Heme, the end-product of the pathway, is presumed to form an active repressor which inhibits the genetically controlled production of δ -aminolevulinic acid (ALA) synthetase.

into rats a series of oscillations of the level of hepatic ALA synthetase occurs over a period of 4 days.³¹ This raises the question as to whether this enzyme is involved in biological clock mechanisms. The oscillations have been explained on the basis of the kinetics of the control mechanism outlined in figure 1.³¹

Estrogen administration increases the excretion of porphyrin precursors in acute intermittent porphyria,³² and data from chick embryo liver cells in vitro are consistent with the concept that it affects the ALA synthetase level of these cells.²⁸ All of these studies indicate that carbohydrate, hormones, and synthetic compounds can profoundly affect the mechanism which controls hepatic ALA synthetase production. These same factors affect the porphyrin-precursor excretion of patients with acute intermittent porphyria, and in some cases they have been shown to have clinical effects. Further investigations of the ALA synthetase control mechanism and factors which affect it will undoubtedly shed much light on this disease.

Studies of the Hypothalamus

It had been known for some time that hyponatremia may occur during attacks of acute intermittent porphyria. Since a renal or adrenal basis for the hyponatremia could not be found, it was usually attributed to the vomiting and other gastrointestinal disturbances which frequently accompany acute attacks of the disease. While there is no doubt that increased loss of body sodium via the gastrointestinal tract does occur in some patients during acute attacks, Hellman et al³³ and Ludwig and Goldberg³⁴ simultaneously and independently concluded that the syndrome of "inappropriate release of antidiuretic hormone" sometimes produces hyponatremia during acute attacks. The sequence of events which follows injection of exogenous antidiuretic hormone into normals^{35, 36} is similar to that seen in patients with the syndrome. Hyponatremia results from water retention and from increased urinary sodium loss. Increased urinary sodium loss, however, occurs only when there is an increase of body fluid volume.³⁷ When water intake is maintained at sufficient levels during Pitressin® administration, an initial decrease of urine volume and excessive sodium excretion continue for a few days, after which a new equilibrium state occurs with lower serum osmolality. By means of assay of antidiuretic hormone, recent studies have provided direct evidence for the excessive amount of circulating hormone in porphyric patients with this syndrome.³⁸

Since the disease process involves various areas of the nervous system, it was postulated that this syndrome results from hypothalamic damage, a phenomenon which has now been demonstrated pathologically.²⁷ In a patient who died of acute porphyria a destructive lesion involving the median eminence and the fibers of the supraoptic and paraventricular nuclei was evident. It is now thought that damage to these fibers allows leakage of antidiuretic hormone into the circulation, and this leakage cannot be shut off by decreased osmolality of the plasma. This syndrome may lead to severe hyponatremia (<110 mEq./L) and water intoxication. Some of the seizures seen in this disorder are probably produced by water intoxication.

Another complication related to the excess antidiuretic hormone is hypomagnesemic tetany. This problem has been seen in patients who have the syndrome of "inappropriate release of antidiuretic hormone" and is probably explained by the fact that antidiuretic hormone augments magnesium excretion by the kidney.³⁹

The fact that inappropriate release of antidiuretic hormone results from a lesion in the hypothalamus raised the question as to whether other hormones under hypothalamic control might also undergo inappropriate release. This question was particularly pertinent, since the demonstrated hypothalamic lesion involved the median eminence, a site at which releasing factors for some of the anterior pituitary hormones occur. The first anterior pituitary hormone studied was growth hormone, and indeed it was found that a glucose load produced an inappropriate release of this hormone into the circulation in many of the patients with acute intermittent porphyria.⁴⁰ In a normal adult there is a virtual disappearance of growth hormone from the blood after a glucose load. In many of the porphyric patients there was a marked increase in the level of blood growth hormone following a glucose load. In others the decline in the level of the hormone was slower than normal. This "inappropriate release of growth hormone" following a glucose load has been observed in normal infants and in a few patients with tumors which were in the proximity of the hypothalamus. Growth hormone is known to inhibit glucose utilization, and studies by Waxman and Tschudy⁴¹ have shown a decreased glucose tolerance in patients during attacks of the disease. In addition to a decreased rate of disappearance of glucose an abnormally high level of lactate and pyruvate appears in the blood after a glucose load.⁴¹ The findings differ somewhat from those seen in diabetes mellitus, and it is not yet certain how much of the abnormal carbohydrate metabolism can be attributed to excess circulating growth hormone.

These studies provide one link between the nervous system abnormalities and the liver abnormalities. Glucose blocks the induction of hepatic ALA synthetase, and abnormal glucose metabolism is seen in acute intermittent porphyria. Whether abnormal glucose metabolism in certain hypothalamic nuclei causes the inappropriate release of growth hormone or whether the excess growth hormone is the major cause of the abnormality of glucose metabolism is not clear.

Preliminary evidence suggests that a high carbohydrate intake (300 to 600 Gm. per day) will prevent drug-induced attacks and end attacks which have already started. In a small series thus far studied, it is our impression that the slowest clinical and biochemical (ALA and PBG excretion) responses to the high carbohydrate intake are in those patients with the greatest degree of

"inappropriate release of growth hormone" and the greatest impairment of glucose utilization. We are now attempting to overcome the abnormalities of carbohydrate metabolism by using insulin along with the high carbohydrate intake. Although it is very difficult to evaluate therapeutic measures in a disease such as acute intermittent porphyria, the application of the "glucose effect" warrants further careful investigation. This disease provides an opportunity for combining biochemistry and clinical medicine into a comprehensive approach to a complicated problem. The story which is unfolding has implications which go far beyond porphyria.

References

- SCHMID, R., SCHWARTZ, S., AND WATSON, C. J.: Arch. Intern. Med. (Chicago), 1954, **93**, 167.
- TSCHUDY, D. P.: J.A.M.A., 1965, **191**, 718.
- WATSON, C. J.: New Eng. J. Med., 1960, **263**, 1205.
- EALLES, L.: S. Afr. J. Lab. Clin. Med., 1963, **9**, 151.
- GOLDBERG, A., AND RIMINGTON, C.: Diseases of Porphyrin Metabolism. Springfield, Ill.: Thomas, 1962.
- WALDENSTRÖM, J.: Amer. J. Med., 1957, **22**, 758.
- WATSON, C. J., AND SCHWARTZ, S.: Proc. Soc. Exp. Biol. Med., 1941, **47**, 393.
- MARVER, H. S., AND OTHERS: Anal. Biochem., 1966, **14**, 53.
- WALDENSTRÖM, J.: Acta Psychiat. Neurol., 1939, **14**, 375.
- SCHMID, R., AND SCHWARTZ, S.: Proc. Soc. Exp. Biol. Med., 1952, **81**, 685.
- GOLDBERG, A., AND RIMINGTON, C.: Proc. Roy. Soc. Med., 1955, **143**, 257.
- ROSE, J. A., HELLMAN, E. S., AND TSCHUDY, D. P.: Metabolism, 1961, **10**, 514.
- WELLAND, F. H., AND OTHERS: Ibid., 1964, **13**, 232.
- GRANICK, S., AND URATA, G.: J. Biol. Chem., 1963, **238**, 821.
- GRANICK, S.: Ibid., 1963, **238**, 2247.
- TSCHUDY, D. P., MARVER, H. S., AND COLLINS, A.: Biochem. Biophys. Res. Commun., 1965, **21**, 480.
- NARISAWA, K., AND KIKUCHI, G.: Biochim. Biophys. Acta, 1965, **99**, 580.
- TSCHUDY, D. P., AND OTHERS: Proc. Nat. Acad. Sci. USA, 1965, **53**, 841.
- NAKAO, K., AND OTHERS: Nature (London), 1966, **210**, 838.
- EPPE, H. M. R., AND GALE, E. F.: Biochem. J., 1942, **36**, 619.
- MONOD, J.: Growth, 1947, **11**, 223.
- NEIDHART, F. C., AND MAGASANIK, B.: Nature (London), 1956, **178**, 801.
- MAGASANIK, B.: Sympos. Quant. Biol., 1961, **26**, 249.
- TSCHUDY, D. P., WELLAND, F. H., COLLINS, A., AND HUNTER, G., JR.: Metabolism, 1964, **13**, 396.
- MARVER, H. S., COLLINS, A., TSCHUDY, D. P., AND RECHCIGL, M., JR.: J. Biol. Chem., 1966, **241**, 4323.
- MONOD, J., JACOB, F., AND GROS, F.: Biochem. Soc. Sympos., 1962, **21**, 104.
- PERLROTH, M. G., AND OTHERS: Amer. J. Med., 1966, **41**, 149.
- GRANICK, S.: J. Biol. Chem., 1966, **241**, 1359.
- MARVER, H. S., AND TSCHUDY, D. P.: Unpublished data.
- MARVER, H. S., TSCHUDY, D. P., PERLROTH, M. G., AND COLLINS, A.: Science, 1966, **154**, 501.
- WAXMAN, A. D., COLLINS, A., AND TSCHUDY, D. P.: Biochem. Biophys. Res. Commun., 1966, **24**, 675.
- WELLAND, F. H., AND OTHERS: Metabolism, 1964, **13**, 251.
- HELLMAN, E. S., TSCHUDY, D. P., AND BARTTER, F. C.: Amer. J. Med., 1962, **32**, 734.
- LUDWIG, G. D., AND GOLDBERG, M.: Ann. N. Y. Acad. Sci., 1963, **104**, 710.
- WESTON, R. E., AND OTHERS: J. Clin. Invest., 1953, **32**, 611.
- JAENIKE, J. R., AND WATERHOUSE, G.: Clin. Res., 1959, **7**, 272.
- LEAF, A., BARTTER, F. C., SANTOS, R. F., AND WRONG, O.: J. Clin. Invest., 1953, **32**, 686.
- NIELSEN, B., AND THORN, N. A.: Amer. J. Med., 1965, **38**, 345.
- NEILSEN, B.: Acta Endocr. (Kobenhavn), 1964, **45**, 151.
- PERLROTH, M. G., TSCHUDY, D. P., WAXMAN, A., AND ODELL, W. D.: Metabolism, 1967, **16**, 87.
- WAXMAN, A. D., AND TSCHUDY, D. P.: Unpublished data.

Social Aspects of Medical Genetics

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RECENT ADVANCES in the detection and treatment of hereditary diseases, as well as in the understanding and manipulation of some of the basic processes of gene action and metabolic control, have generated considerable interest in the study of hereditary or "genetic" diseases. Medical genetics, the field of medicine that is concerned with the study of hereditary diseases, has ceased to be involved principally with the description of exotic clinical syndromes. It is now moving to provide a focus for the meeting of basic genetic theory, "molecular biology," and clinical medicine. Although these developments were foreshadowed over 50 years ago by Garrod in his investigations of certain inborn errors of metabolism, it is largely in the last 2 decades that the major advances have been made. However, along with the rapid accumulation of knowledge have come many problems and questions, not all of which are wholly scientific in nature. Some of these problems, it is true, antedate the "modern era" but have never been satisfactorily resolved. Others represent problems that have been engendered by recent developments or that are likely to result from expected future advances. While the immediate context of these problems is medical genetics, the fact that hereditary diseases are important to all areas of medicine makes them of general concern.

Of the many activities of medical geneticists, counselling (or the giving of "genetic advice") is perhaps the best known. Giving the proper advice depends upon accurate diagnosis of the clinical problem and knowledge of the relevant medical and genetic facts. Aside from its psychotherapeutic and instructive aspects, counselling usually takes the form of presenting the odds that a given individual or his offspring has or will develop a specific hereditary condition. It is a tenet of counselling that the counsellor not inject his own views into the situation and that the patient himself be permitted or, more likely, forced to make what is often a difficult decision about present pregnancies and future children. The

burden would be great enough if this decision were to affect him alone. However, the decision very often directly affects his as yet unborn children, his family, and, indirectly, society as a whole. Therefore, the wisdom of requiring the patient to make a decision entirely by himself and purely on the basis of statistics may be questioned, and it would appear desirable to have guidelines by which a patient could be advised. Since all hereditary conditions—and here are also included diseases produced by chromosomal aberrations—are not inherited in the same way and are not of the same severity, it is impossible to make any categorical statements. I shall, however, explore some of the alternative modes of action that are possible.

For diseases inherited in an autosomal "dominant" manner (requiring the transmission of a single mutant gene from 1 parent), the probability is 0.5 (or 50 per cent) that any individual child of an affected parent will also have the disease. If the disease is one that results in severe disability or early mortality, e.g., tuberous sclerosis or Marfan's syndrome, there is little question that a 50 per cent risk of having such a child is indeed high not only for the parents but also for the child and for the medical and social resources that will be required for his care. Rather than merely quoting odds, would it not be better, for all concerned, for the counsellor to stress the serious implications of having children and to advise individuals carrying such genes not to have children? This advice must, it is emphasized, be a matter between the counsellor and the patient, and not one that has any legal status. The recent past provides only too vivid a picture of what can happen when legalized intervention for "genetic" reasons is practiced.

At the present time the use of contraception appears to be the best means of attaining the desired goal of not transmitting a serious "dominant" disease. If the disease were one that did not happen to severely affect the particular individual who had it and did not, therefore, interfere with his or her ability to satisfactorily raise a family, the adoption of children would appear to be quite desirable. Another alternative, if the husband was the affected individual, would be for the wife to be

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fertilized by artificial insemination. Should sterilization be used to prevent procreation? While this might not be unreasonable for a parent who has had several children, especially if 1 or more are normal, the advisability of its general use is questionable.

Inherent in the philosophy of management of sick people, even those with severe and incapacitating illnesses, is the hope that a cure or a good therapy for the disease will be found, and past precedents demonstrate that such hopes are sometimes realized. Thus, it is not unreasonable to hope that a cure for even "dominantly" inherited diseases will be found, and it would then be possible for affected individuals to have children safely. However, as will be discussed later, unless the therapy is one which is quite simple, we face the dilemma that our willingness to allow the perpetuation of a hereditary disease will result in our increasing the therapeutic burden on society.

Another difficult question is whether individuals who are pregnant should be permitted to have their pregnancies terminated. At the present time "therapeutic abortions" for "genetic" reasons, as for most other reasons, are not readily obtainable, and the prevailing legal and ethical consensus is against the performing of abortions in instances in which the mother's health is not in serious danger. With regard to abortions for hereditary diseases, the problem is compounded by the fact that only a fraction of the aborted fetuses will be affected. The remainder will be perfectly normal, but at present there is no way to tell in advance. Thus, abortion does not seem to be the best way of preventing the transmission of "dominant" hereditary diseases. Nevertheless, it is conceivable that situations could arise in which termination of pregnancy for "genetic" reasons might be considered advisable by the physician and strongly desired by the parents. It would seem reasonable, considering the implications of transmitting such diseases and that means for their prevention and cure are not presently available, to have available legal means for complying with such requests.

How far we should go with the above reasoning is difficult to determine. Take, for example, the problems involved in advising individuals, one of whose parents has Huntington's chorea. The disease, while quite disabling, does not manifest itself until late in life (only half of the cases are detectable below age 40), and there is no way of detecting it in asymptomatic persons. The risk to each child of a patient is 50 per cent and to

each of the children of the former, 25 per cent. The risk of 25 per cent, a not inconsiderable one for a disease like Huntington's chorea, is actually the mean of 2 risks—50 per cent for children of individuals who carry the gene, and 0 for children of those that do not. While one would like to advise a person who is at risk not to have children until he is old enough to have developed the disease, if he is, in fact, a carrier, this would not be a practical approach. Therefore, considering the burden on his family, himself, and on society that an individual with Huntington's chorea presents, it may be concluded that asymptomatic individuals who are at risk should be advised not to have children.

X linked diseases and transmissible chromosomal anomalies are similar to autosomal "dominant" conditions in the considerations involved in their counselling, but autosomal "recessive" diseases present several additional problems. Since the diseases require the presence of 2 abnormal genes at a single locus, it will not be possible to know that 2 apparently normal carriers (heterozygotes) have married until they have had at least 1 affected child. The risk to each subsequent child will then be 0.25 (25 per cent). Moreover, unlike the diseases inherited by the other genetic patterns, for which it is possible to conceive that avoidance of procreation will eliminate or at least reduce to a minimum the mutant genes in the population, autosomal "recessive" diseases cannot be so readily eliminated or reduced. This results from the fact that virtually all of the mutant genes for rare "recessive" diseases will be carried by heterozygotes, and the chance of 2 heterozygotes mating is quite low relative to that of a heterozygote mating with a normal individual. Therefore, preventing pairs of heterozygotes from having children will do little to lower significantly the frequency of the gene in the population, although it could lower it somewhat.¹ It has also been pointed out that a gene which is deleterious in the homozygous state may actually be beneficial in the heterozygous condition, and "negative eugenics" may thus be futile on both theoretical and practical grounds.²

What counsel, then, for the parents who have had a child with serious "recessive" disease? For the diseases which are disabling, lethal early, or associated with mental retardation, the answer is similar to that proposed for hereditary conditions with other modes of inheritance. Further pregnancies should be avoided, although artificial insemination could be used. With few exceptions, sterilization would be out of the question; it is

never possible to predict when one or both of the heterozygous parents will marry other spouses who do not carry the mutant gene. Again, it must be pointed out that the rationale is not to eliminate the gene from the population but to prevent the birth of individuals who would be a burden to their families and, ultimately, to society. This recommendation may appear unduly harsh, especially if the parents have not yet had any normal children (although this would occur in less than a quarter of the matings of 2 heterozygotes). In part, the matter ultimately comes down to whether one should take a 25 per cent risk of imposing an untreatable, fatal, or incapacitating disease on another individual as yet unborn. This is a risk we would rarely if ever take with someone who is already living.

The question of what to recommend in the case of treatable "recessive" diseases is more complex and requires a consideration of the purposes and possible disadvantages of such therapy. It is, of course, incumbent upon us as physicians to do all that we can to alleviate disease, and hereditary conditions are no exceptions. Therefore, whatever our beliefs about the advisability of having further children, there is no question that every attempt be made to develop and apply methods of treatment for these conditions. However, given the fact that such therapies should and will exist, should we deliberately create situations in which their use will be required?

Part of the answer may be with the nature of the therapy. If all that is required is that the affected individual take a few pills or avoid eating a limited number of foods, then, considering the overall picture of gene frequencies in "recessive" diseases, it may be unduly severe to advise parents to avoid completely having children. It must be realized that even under these conditions some limitation might be desirable.

Unlimited breeding by homozygotes who are, by virtue of therapy, now able to survive into the childbearing ages will allow for an increase, albeit very gradual, in the frequency of the mutant gene, thereby increasing what might be termed the "therapeutic load" of the population. The increase would be considerably more rapid with successful treatment of "dominantly" inherited diseases that had previously been associated with a reduction in fertility.³ An example of the type of problem that can arise is provided by the recent observation that women with phenylketonuria (a disease that is now "treatable") gave birth to mentally retarded children who did not themselves have the disease.⁴ To

prevent this from happening in future pregnancies rigorous control of the mothers during pregnancy will be required, and the number of such pregnancies will increase as "treated" individuals with phenylketonuria grow to maturity. On the other hand, there may be therapies that require the expenditure of large amounts of time or of money, the prolonged use of unpalatable or very restrictive diets, or the performance of difficult procedures such as organ transplantation (with their own ethical problems). We would be inclined in such cases to recommend that such therapies be reserved for those who unfortunately require their use and that parents should not deliberately have children in the expectation that they will be available. There are, of course, all shades of feasibility and difficulty between the extremes discussed, and in the end each situation must be considered on its own merits.

One development that may, in the future, offer a solution to the problem of preventing the birth of defective children while allowing for the birth of normal ones is that of prenatal diagnosis. It has recently been shown that the sex of fetuses can be reliably determined by the examination of cells in the amniotic fluid.⁵ But, the earliest cells that were satisfactorily evaluated were obtained at 24 weeks of gestation, a relatively advanced stage if termination of pregnancy were being contemplated. Whether similar information about the presence of chromosomal and other hereditary diseases could be obtained early enough to be of use, if it could be obtained at all, is unknown; but it is likely that in certain conditions it could. It has also been suggested that prenatal diagnosis be accompanied by prenatal therapy. Except for work presently being carried out with Rh incompatibility there is no precedent for such therapy, but it is possible to conceive of instances in which it might work. This approach would, in theory, extend those considerations that apply to living individuals to ones that are still unborn, and would require the therapy of all affected embryos and fetuses. While this goal would appear to be reasonable from the humanitarian point of view, it does incur, as does any therapy of genetic diseases, the risk of an eventual increase in our therapeutic load. Although the proportion of the total therapeutic load of society that is contributed by hereditary diseases is likely to be small, we must still be aware of how our actions in any area of medicine will affect this load.

Apart from the immediate aspects of the counselling situation, the genetic counsellor has both the opportunity and the responsibility to engage

in activities that could be of direct benefit to other members of the patients' families. For rare "recessive" conditions appearing in a single sibship in families that are not inbred there is little chance that other sibships within the family will be affected. On the other hand, "dominant" and X-linked diseases may affect other branches of the patients' families.

While the wholesale investigation of such families might be a practical impossibility, there is little question that much would be gained from the purely medical point of view (not to speak of further opportunities for counselling) in alerting other family members and their physicians to the fact that they are or may be affected by a specific hereditary disease. In some instances such knowledge could prevent or reduce subsequent difficulties, and this approach represents a form of preventive medicine in which the potential benefits relative to costs are likely to be quite high. However, family studies for the detection of all heterozygous carriers of genes for "recessive" diseases are not to be recommended, since, except from the scientific value, it is unlikely that such information would have any socially or medically practical application to justify the expense and time involved.

Before concluding this discussion, which has been principally concerned with the immediate problems of the impact of hereditary diseases on individuals who have them, their families, and the social resources required for their care, some mention must be made of questions that have been raised about possible future developments. In addition to the possibilities for therapy that have been mentioned, the concept of the "improvement" of mankind by genetic manipulation of one kind or another has been much discussed.^{2, 3, 6, 7} This is to be distinguished from "euphenics" or "genetic engineering,"^{2, 8} terms which, portentous though they may sound, refer to the use of molecular and cellular manipulations for the benefit of specific individuals, in other words, to therapeutic approaches based on the modern concepts of "molecular biology."

Discussion has centered about 4 questions: Is it possible to "improve" mankind by genetic means? Who should do the improving? What methods should be employed? And, finally, is there any danger involved in such attempts? At

present, it is by no means clear that the human species can be "improved" by any type of genetic manipulations, whether eugenic (with selective mating or sperm banks) or molecular (by transformation or transduction of genes, clonal or asexual reproduction, or in vitro breeding). We are much too far from knowing enough about the interactions of all of the genes that man possesses to guess or predict what combination will be the best, if indeed there is any "best." While it may ultimately prove possible to alter man's genetic constitution to achieve a desired result, there is no a priori way of estimating the overall effects of such alterations on the species. It would be convenient to be able to say that, given our present ignorance, we should do well to stop worrying about such problems. However, scientific research in the areas pertinent to these problems is, if anything, constantly expanding and accelerating, and sooner or later we shall be faced with some difficult decisions. While the events associated with the development of the atomic bomb may not be strictly analogous, they do indicate that scientific discoveries, once made, cannot be unmade and that their consequences, both scientific and social, cannot always be predicted. We must, therefore, always remain cognizant of the responsibilities and risks incurred by our experimentation with genetic manipulation and work to insure that the results of such experimentation will truly inure to the benefit of mankind.

References

1. BARKER, J. S. F.: Effect of partial exclusion of certain matings and restriction of their average family size on genetic composition of a population. *Ann. Hum. Genet.*, 1966, 30, 7.
2. LEDERBERG, J.: Experimental genetics and human evolution. *Amer. Naturalist*, 1966, 100, 519.
3. CROW, J. F.: Quality of people: human evolutionary changes. *BioScience*, 1966, 16, 863.
4. MABRY, C. C., DENNISTON, J. R., AND COLDWELL, J. G.: Mental retardation in children of phenylketonuric mothers. *New Eng. J. Med.*, 1966, 275, 1331.
5. AMAROSE, A. P., WALLINGFORD, A. J., JR., AND PLOTZ, E. J.: Prediction of fetal sex. *Ibid.*, 1966, 275, 715.
6. WOLSTENHOLME, G., editor: *Ciba Foundation Symposium: Man and His Future*. Boston: Little, 1962.
7. SONNEBORN, T. M., editor: *Control of Human Heredity and Evolution*. New York: Macmillan, 1965.
8. TATUM, E. L.: Molecular biology, nucleic acids, and the future of medicine. *Perspect. Biol. Med.*, 1966, 10, 19.

Amyloidosis: Review of Cardiac and Renal Manifestations

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AMYLOIDOSIS has intrigued pathologists and clinicians for more than 100 years and yet is still of unknown pathogenesis and unresponsive to any therapy. It is not uncommon. In several large autopsy series the incidence was 0.4–0.5 per cent.^{1, 2} It is characterized by the extracellular deposition of an amorphous, hyaline-like, homogeneous, eosinophilic glycoprotein, with particular staining characteristics and affinity for certain dyes.

In the absence of a known pathogenesis numerous classification schemes have appeared, depending on organ involvement, staining characteristics, and the presence or absence of other diseases. On such bases 3 main types of amyloid have been described. Secondary amyloidosis is the type associated with some subacute or chronic inflammatory disease such as tuberculosis, osteomyelitis, rheumatoid arthritis, and leprosy. Involvement of the kidney, liver, spleen, and adrenals is common. In primary amyloidosis there is no overt antecedent or predisposing illness, and the organ involvement differs. The blood vessels are infiltrated with amyloid deposits. The heart, tongue, peripheral nerves, and gastrointestinal tract are frequently involved. The third type of amyloidosis, found in patients with multiple myeloma, and sometimes referred to as para-amyloidosis, has a distribution like that of primary amyloidosis. Although this classification adequately categorizes most of the cases, many others do not fit into one or the other, either on the basis of atypical organ involvement or peculiar staining properties.

The 2 organs most frequently involved in these different forms of amyloidosis are the kidney and heart. Involvement of these organs is especially significant in that the vast majority of the deaths in amyloidosis result from either renal or cardiac failure. It is the purpose of the present report to review some of the clinical features associated with amyloid deposition in these 2 organs. An unusual case of renal amyloidosis will be pre-

sented, and diagnostic approaches will be discussed.

Cardiac Amyloid

Cardiac involvement by amyloid may be the predominant clinical manifestation in cases of familial amyloid,³ may occur in the absence of amyloid elsewhere as in senile cardiac amyloid,^{4, 5} and is the most common site of involvement^{6, 7} and cause of death in the primary systemic form.

In the latter, Symmers⁷ found myocardial involvement in 90 per cent of the cases he reviewed. Moderate to severe pathologic involvement occurred in 65 per cent of the cases reviewed by Rukavina et al.⁸ Amyloid deposits may occur in any or all of the 3 layers of the heart, the heart valves, or the coronary arteries. The most frequent site is in the myocardium with focal interstitial amyloid deposits. Myocardial damage with loss of muscle fibers is presumably due to progressive ischemia associated with the increasing bulk of the amyloid deposits.⁷ The heart is generally enlarged, weighing 450 to 600 Gm.^{7, 8} Eliot et al⁹ described one case in which the heart weighed 1,090 Gm.

Congestive heart failure is the most common clinical expression of cardiac amyloid involvement, occurring in approximately $\frac{1}{2}$ of the patients.^{8, 10, 11, 12} The heart failure is progressive and frequently intractable to the usual modes of therapy.¹³ From the onset of symptoms of heart failure, death usually occurs within 6 months to 2 years.⁹

The clinical presentation may mimic constrictive pericarditis.^{14, 15} With extensive amyloid deposits in the myocardium there is a decrease in myocardial elasticity and contractility. The pressure tracings obtained at cardiac catheterization both in primary amyloid and in the familial form are similar to those obtained in constrictive pericarditis of other causes.^{3, 15}

Hypertension and angina pectoris are not usually present with cardiac amyloid. Valvular involvement resulting in stenosis or insufficiency is uncommon but has been reported.^{10, 15, 16} Syncope is a relatively frequent symptom⁸ and was present

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in 5 of the 20 cases of primary amyloidosis in Briggs' series.¹¹ Recent studies of the cardiac conduction system in amyloidosis by James¹⁷ confirm that this is often extensively involved, particularly the area of the sino-auricular node. These studies also help to explain the common occurrence of various types of A-V conduction abnormality including A-V block and bundle-branch block. First degree block or bundle-branch block was present in 9 of the 22 cases described by Wessler and Freedberg¹⁸ and in 50 per cent of another series.⁹ Complete heart-block with Stokes-Adams attacks has been described both in primary¹⁹ and senile²⁰ cardiac amyloidosis. Sensitivity to digitalis has been described.²¹ In the light of the pathologic studies of James,¹⁷ overzealous attempts to correct arrhythmias in these patients may prove hazardous.

Low voltage is the most frequent electrocardiographic abnormality and is found in approximately $\frac{1}{2}$ of the patients.^{9, 18} Axis deviation may be found and has been related to heart size and degree of involvement.⁹ Extensive amyloid infiltration may produce ECG changes typical of myocardial infarction.¹⁸

Cardiac amyloidosis may be an incidental autopsy finding in the elderly, completely silent clinically and noncontributory as a cause of death. Buerger and Braunstein⁴ reviewed a large series of cases of senile cardiac amyloidosis and estimate the autopsy incidence as 1.5 per cent. In their experience cardiomegaly is usually not present and congestive heart failure infrequent. Low voltage on the ECG is unusual. Senile cardiac amyloid may be the most common of all types of amyloid. Pomerance⁵ found an autopsy incidence of 10 per cent in people over the age of 80 years and 50 per cent in those over 90. Contrary to Buerger's experience over half of these patients had congestive failure. Pathologically this entity is indistinguishable from primary amyloidosis with systemic distribution.

Renal Amyloidosis

Renal involvement in both primary and secondary amyloidosis is a frequent occurrence and a common cause of death in these patients. Rukavina et al⁸ and Symmers⁷ found renal involvement in 27 and 35 per cent in 2 large series of patients with primary amyloidosis. Renal involvement is 2 to 3 times more common in secondary amyloidosis than in the primary form.²² In the former, abnormal renal function is usually the first indication of amyloidosis.

The most frequent site of amyloid deposition

is glomerular, but predominant tubular or vascular involvement may be present. Although renal size is often increased, with progressive glomerular involvement and secondary tubular atrophy, the kidneys are usually contracted in the later stages of the disease.²³

Proteinuria is the most common renal functional abnormality and was found in over 90 per cent of the patients in several large series.^{24, 25} Renal amyloidosis may be manifested clinically by proteinuria, the nephrotic syndrome, or azotemia. In cases of secondary amyloidosis proteinuria is usually manifested several years after the onset of the primary process. It is not well appreciated that this can occur within months. In Dixon's large series of patients²⁵ with secondary amyloidosis published in 1934, 16 per cent had evidence of their primary disease for less than 1 year, and in 8 per cent this was less than 6 months. Tuberculosis was the primary process in approximately 80 per cent of the cases.

The frequent occurrence of Bence-Jones proteinuria in patients with primary amyloidosis and in amyloidosis associated with multiple myeloma has been pointed out by Osserman et al.²⁶

The nephrotic syndrome is a common mode of presentation with renal amyloidosis. Calkins and Cohen¹ have recently reported on 50 cases of both primary and secondary amyloidosis. Nephrosis was the presenting manifestation in 34 per cent of the cases and in 50 per cent of those with secondary amyloidosis. The nephrotic syndrome is more commonly associated with secondary amyloidosis than with the primary form. Muehrcke et al²³ were able to find only 10 cases of primary amyloidosis and nephrotic syndrome in 1955. Since then numerous other cases have been reported. The presence of the nephrotic syndrome is thus not helpful in distinguishing these 2 forms. In patients with nephrosis of unknown etiology amyloid has been found on renal biopsies in 3 to 12 per cent.²⁷⁻³⁰

In the amyloidosis associated with familial Mediterranean fever proteinuria and the nephrotic syndrome are often the only manifestations of the disease. It is of considerable interest that relatives of patients with this disease may have renal amyloidosis in the absence of the other manifestations.³¹

Rare manifestations of renal amyloidosis include renal tubular acidosis^{22, 32} and nephrogenic diabetes insipidus.³³ The latter was observed in a patient with secondary amyloidosis associated with chronic osteomyelitis in whom the pre-

dominant renal amyloid deposits were in the medullary collecting tubules.

In patients with renal disease of unknown etiology certain associated findings should suggest the diagnosis of amyloidosis. These include the presence of skin lesions, particularly "pinch purpura,"³⁴ macroglossia, the carpal tunnel syndrome,³⁵ or peripheral neuropathy. The lack of hypertension in the presence of renal failure has been a frequent observation, although Heptinstall²⁹ noted a diastolic blood pressure of greater than 100 mm. Hg in 6 of his 11 cases. Increased renal size in the presence of renal failure has been commented on.

From the onset of symptoms the course is usually rapidly progressive and refractory to therapy. Occasional examples of regression have been reported but have generally not been documented by histological examination.^{36, 37} One distinguishing feature from chronic glomerulonephritis is persistent heavy proteinuria and hypoalbuminemia in the face of progressive azotemia.²²

Death from renal failure occurred in approximately $\frac{1}{2}$ of a large series of patients with secondary amyloidosis recently reviewed by Briggs.¹¹ From the onset of symptoms death usually occurs within 2 years. Martin et al³⁸ found that 11 of 14 patients with renal amyloidosis were dead within 2 years. Muehreke et al²³ found a mean survival of 16 months from the onset of symptoms in 10 patients with primary amyloidosis and nephrosis. Maxwell et al³⁰ reported no benefit from steroid therapy in either primary or secondary amyloidosis associated with the nephrotic syndrome. These patients had a mean survival of 17.6 months.

In patients with known amyloidosis the sudden onset of the nephrotic syndrome or rapid deterioration of renal function with oliguria and uremia should suggest renal vein thrombosis.^{39, 40} Flank pain, hematuria, or evidence of pulmonary emboli in patients with amyloidosis are other clues to this diagnosis. The thrombosis is thought to originate in the renal capillaries and extend proximally into the renal veins and vena cava. It usually occurs in the clinical setting of dehydration following diuresis⁴¹ or postoperatively.^{41, 42} It is usually fatal within 1 month but should be suspected since the diagnosis can be established radiographically and anticoagulants may be of benefit.⁴⁰ Most of the cases of renal vein thrombosis have occurred in secondary amyloidosis, but at least 3 cases of renal vein thrombosis associated with primary amyloidosis have been reported.^{41, 42}

As an example, E.Z. (06-53-69), a 58-year-old white man, had weakness, weight loss, and peripheral edema in July 1965. Physical examination was unremarkable except for macroglossia, generalized edema, and several yellow plaque-like lesions on the chest and extremities. Purpura developed within minutes after gentle scratching of the skin. The nephrotic syndrome was present as was a serum myeloma protein and 10 per cent marrow plasmacytosis. Urinary protein loss was 10 Gm. per day. Lymph node biopsy revealed amyloidosis. Amyloidosis was also found in biopsies of the skin, small bowel, and bone marrow. Symptoms of orthostatic hypotension became a significant problem. Three to 4 months before death urinary protein excretion increased to 20 Gm. per day, azotemia progressed rapidly, and the patient died 11 months after the diagnosis had been established. Extensive amyloid deposits were found at autopsy, particularly involving the kidney, heart and spleen.* Every glomerulus was involved. Bilateral renal vein thrombosis was present. The thromboses were calcified and recanalized in certain areas and may have been present for several months. This is the first case of amyloidosis and myeloma that has been associated with bilateral renal-vein thrombosis. Renal-vein thrombosis in this man was undoubtedly present for some time prior to death and could have contributed to the rapidly progressive azotemia and the increase in proteinuria documented several months before death.

Diagnosis

In Eisen's review¹⁰ of primary amyloidosis published 20 years ago less than 20 per cent of the cases were recognized antemortem. In a large series reviewed 10 years ago a clinical diagnosis of amyloidosis had been correctly made in only 25 per cent of the cases.⁸ With the tremendous increase in the use of biopsies and with the increased clinical awareness of the spectrum of this disease close to 80 per cent of the cases are now diagnosed clinically.^{24, 43} Biopsies of gingiva, tongue, skin, muscle, nerve, rectum, liver, kidney, small bowel, and bone marrow have all been found clinically useful and positive in a high percentage of cases.^{1, 43, 44, 45}

Rectal biopsy has been the single most useful procedure because of the relative ease in performance and lack of morbidity. It is positive in primary amyloid, secondary amyloid, and the

* The autopsy was performed at the Union Memorial Hospital, Baltimore, Maryland by Dr. S. Lloyd, who kindly furnished us with the microscopic sections.

amyloid associated with familial Mediterranean fever in about 75 per cent of the cases.⁴³ Kyle et al⁴⁴ found positive rectal biopsies in 85 per cent of their series of cases of primary amyloidosis. The amyloid was usually found either in the blood vessels or as clumps in the connective tissue of the submucosa. Negative biopsy results are commonly associated with the failure to obtain adequate submucosal tissue. Amyloid is birefringent with the use of polarized light, and with this technique cases with minimal amyloid deposits have been recognized that were negative with the use of routine and special stains.⁴⁶ This has also been true with fluorescent dyes such as thioflavine-T.⁴⁷

Gingival biopsy has been particularly helpful in cases of primary amyloidosis and those associated with multiple myeloma. However, the yield is not as great as with rectal biopsy, approaching 20 per cent.^{43, 44}

Because of the diffuse nature of amyloidosis liver and kidney biopsies are usually positive in cases in which these organs are involved. Several cases of fatal bleeding have been reported following liver biopsy.¹ Although caution has been recommended for the performance of liver biopsy in patients in whom amyloidosis is suspected, in our experience liver biopsy is often done in cases of hepatomegaly in which tumor or cirrhosis is the initial impression and amyloid is found.

Kyle et al⁴⁵ recently reported that in 42 per cent of their cases of primary amyloidosis the bone marrow aspiration was diagnostic. In half of the cases amyloid was found in the walls of the small blood vessels. In the other half extramural deposits were present. Paraffin sections were of more use than the smears of the marrow aspirate. In 10 per cent of the cases the bone marrow was the first organ found to be involved.

Biopsy has now largely replaced the use of the Congo red test. Fatalities have occurred during this procedure. Its use is generally limited to cases of secondary amyloidosis, but even here a high incidence of false negative reactions is found.^{1, 8}

Summary

The clinical features of cardiac and renal amyloidosis have been reviewed. Although sometimes present as isolated findings, evidence of multisystem involvement with purpura, macroglossia, or peripheral neuropathy should suggest the diagnosis. Bone-marrow and rectal biopsy are valuable for the diagnosis.

A case with bilateral renal vein thrombosis occurring in a patient with multiple myeloma and amyloidosis has been presented.

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References

1. CALKINS, E., AND COHEN, A. S.: *Bull. Rheum. Dis.*, 1960, **10**, 215.
2. HARVEY, A. M., WALKER, W. G., AND YARDLEY, J. H., in Strauss, M. B., and Welt, L. G., editors: *Diseases of the Kidney*. Boston: Little, 1963, p. 575.
3. FREDERIKSEN, T., AND OTHERS: *Amer. J. Med.*, 1962, **33**, 328.
4. BUEGER, L., AND BRAUNSTEIN, H.: *Ibid.*, 1960, **28**, 357.
5. POMERANCE, A.: *Brit. Heart J.*, 1965, **27**, 711.
6. MATTHEWS, W. H.: *Amer. J. Med. Sci.*, 1954, **228**, 317.
7. SYMMERS, W. ST. C.: *J. Clin. Path.*, 1956, **9**, 187.
8. RUKAVINA, J. G., AND OTHERS: *Medicine (Balt.)*, 1956, **39**, 239.
9. ELIOT, R. S., MCGEE, H. J., AND BLOUNT, S. G.: *Circulation*, 1961, **23**, 613.
10. EISEN, H. N.: *Amer. J. Med.*, 1946, **1**, 144.
11. BRIGGS, G. W.: *Ann. Intern. Med.*, 1961, **55**, 943.
12. LINDSAY, S.: *Amer. Heart J.*, 1946, **32**, 419.
13. BALLINGER, J.: *Amer. J. Med. Sci.*, 1949, **217**, 308.
14. COUTER, W. T., AND REICHERT, R. E.: *Circulation*, 1950, **2**, 441.
15. GUNNAR, R. M., DILLON, R. F., WALLYN, R. J., AND ELISBERG, E. I.: *Ibid.*, 1955, **12**, 827.
16. BRIGDEN, W.: *Progr. Cardio. Dis.*, 1964, **7**, 142.
17. JAMES, T. N.: *Ann. Intern. Med.*, 1966, **65**, 28.
18. WESSLER, S., AND FREEDBERG, A. S.: *Arch. Intern. Med. (Chicago)*, 1948, **82**, 63.
19. COOKSON, H., AND MALLET, A. E.: *Brit. Med. J.*, 1962, **1**, 93.
20. BROWNSTEIN, M. H.: *New York J. Med.*, 1966, **66**, 397.
21. CASSIDY, J. T.: *Ann. Intern. Med.*, 1961, **55**, 989.
22. LINDEMAN, R. D., SCHEER, R. L., AND RAISZ, R. L.: *Ibid.*, 1961, **54**, 883.
23. MUEHRCKE, R. C., PIRANI, C. L., POLLAK, V. E., AND KARK, R. M.: *Guy Hosp. Rep.*, 1955, **104**, 295.
24. KYLE, R. A., AND BAYRD, E. D.: *Arch. Intern. Med. (Chicago)*, 1961, **107**, 344.
25. DIXON, H. M.: *Amer. J. Med. Sci.*, 1934, **187**, 401.
26. OSSERMAN, E. F., TAKATSUKI, K., AND TALAL, N.: *Seminars Hemat.*, 1964, vol. 3.
27. KARK, R. M., AND OTHERS: *Ann. Intern. Med.*, 1958, **49**, 751.
28. BLAINNEY, J. D., BREWER, D. B., HARDWICKE, J., AND SOOTHILL, J. F.: *Quart. J. Med.*, 1960, **29**, 235.
29. HEPTINSTALL, R. H., AND JOCKES, A. M.: *Ann. Rheum. Dis.*, 1960, **19**, 126.
30. MAXWELL, M. H., ADAMS, D. A., AND GOLDMAN, R.: *Ann. Intern. Med.*, 1964, **60**, 539.
31. SOHAR, E., AND OTHERS: *Quart. J. Med.*, 1963, **32**, 211.
32. BERO, G. L.: *Ann. Intern. Med.*, 1957, **46**, 931.

(Continued on page 266)

Treatment of Hodgkin's Disease

VINCENT T. DEVITA, JR., M.D.*, AND PAUL P. CARBONE, M.D.†

IN THE LAST SEVERAL YEARS there has been a great change in the approach to the management of patients with Hodgkin's disease. This change has been due in large part to the realization that localized disease can be successfully irradiated.^{1, 2, 3} The survival of patients with localized Hodgkin's disease treated with radiotherapy approaches that of a normal age-matched population (figure 1 and table 1). In addition, Kaplan and Rosenberg⁴ have shown that the most likely site of recurrence of active disease is the adjacent non-irradiated node area. Their data plus the findings of Peters³ regarding the value of prophylactic contiguous node irradiation suggest that the disease is unifocal and spreads in a predicted orderly fashion and should be susceptible to curative high-dose intensive radiotherapy. Thus, Hodgkin's dis-

TABLE 1: Survival Rates in Hodgkin's Disease According to Stage*
Toronto 1928-54

Stage	5 Years Per cent and Number	10 Years Per cent and Number	15 Years Per cent and Number	20 Years Per cent and Number
I	73 (71)	52 (71)	42 (57)	39 (36)
II-A	90 (51)	67 (51)	43 (28)	39 (18)
II-B	23 (64)	13 (64)	6 (34)	— (17)
III	11 (137)	5 (137)	6 (95)	4 (56)
TOTAL SERIES	40 (323)	27 (323)	20 (214)	18 (127)

* A summary of the survival data for Hodgkin's disease by stage as reported by Peters and Middlemis¹ with their staging classification. The numbers in parentheses indicate the number of patients at risk in each stage at the appropriate time interval. The percentage figure indicates the per cent of patients remaining in remission at the indicated time.

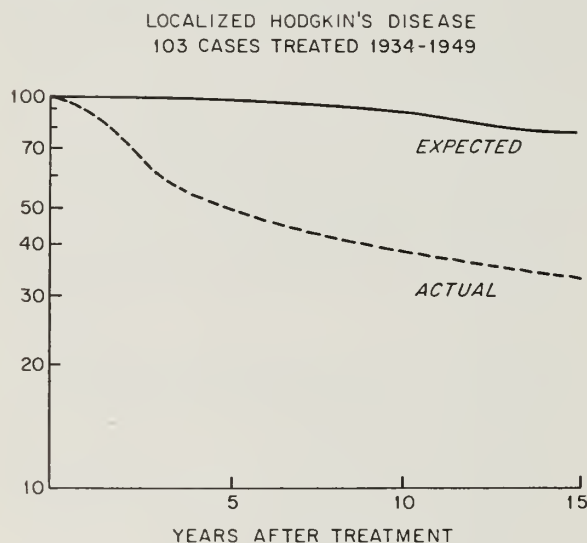


FIG. 1. Survival data of localized Hodgkin's disease (from Easson²).

ease cannot be considered as an invariably fatal illness. We shall review briefly the important concepts that must be kept in mind by the physician in his evaluation of patients with Hodgkin's disease.

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Clinical Evaluation

The investigational work-up of each patient with Hodgkin's disease must include a thorough attempt by laboratory and clinical examination to determine the extent of anatomic involvement. The original classification of Peters modified by Kaplan⁵ and as shown in table 2 is now being used at many medical centers. Besides the usual good clinical examination, probably the most important adjunct to staging has been the use of bilateral lower-limb lymphangiography. Table 3 illustrates the value of lymphangiograms.⁶ Intravenous pyelography and inferior vena cavography are helpful only when they are grossly abnormal. More aggressive investigations of possible organ sites of involvement such as the lungs by full chest tomography when there is mediastinal involvement, the liver biopsy for minimally abnormal liver function tests, the marrow biopsy in addition to aspiration and the bones by supplementing the usual metastatic survey with strontium 85 bone scans have, in our hands, turned up a larger proportion of patients with organ involvement than was previously suspected.

Categorizing patients as A (asymptomatic) or

**TABLE 2: Classification of Hodgkin's Disease
Presently Used at the National Cancer
Institute**

STAGE I: Disease limited to 1 anatomic region.
STAGE II: 1. Disease limited to 2 contiguous anatomic regions, on the same side of the diaphragm. 2. Disease in more than 2 anatomic regions or in 2 noncontiguous regions on the same side of the diaphragm.
STAGE III: Disease on both sides of the diaphragm but limited to involvement of the lymph nodes, spleen, and Waldeyer's ring.
STAGE IV: Involvement of the bone marrow, lung parenchyma, pleura, liver, bone, skin, kidneys, gastrointestinal tract, or any tissue or organ other than the lymph nodes, spleen, or Waldeyer's ring.

All stages are subclassified as A or B to indicate the absence or presence, respectively, of systemic symptoms.

B (symptomatic) has had important prognostic implications.^{1, 2} It is our opinion and that of others⁷ that most patients in the B category probably have extensive disease or widespread organ involvement. The signs and symptoms used to place patients in category B are fever, night sweats, pruritus, and loss of weight greater than 10 per cent of normal weight.

**TABLE 3: Results of Lymphangiography
Performed in 192 Patients with
Hodgkin's Disease***

Clinical Stage Prior to Lymphangiogram	Total Patients	Abnormal Lymphangiograms	
		No.	Per cent
I Groin	6	6	100
Cervical	20	2	10
II-A	53	17	32
-B	56	50	89
III	57	50	88

* The effect of lymphangiography on patients staged clinically. Note high incidence of positive lymphangiograms in patients staged as II-A and B, thus converting them to III-A and B (from Lee⁶).

Radiation Therapy

Two important observations have changed the radiotherapy approach to Hodgkin's disease. An involved node will shrink or even disappear following small doses of radiotherapy (1,000 rads or less), but Kaplan⁸ has shown that there is a relationship

between dose of radiation and the risk of recurrences in an irradiated site. To assure a minimum risk of recurrence a dose of 3,500 to 4,000 rads over a 3- to 4-week period must be delivered to the tumor. In the past such a tumor dose with conventional equipment to extensive anatomic sites had been associated with considerable morbidity. With the advent of high voltage equipment these complications have been minimized.

Secondly, in the early 1950's Peters³ reported improved survival in patients by irradiating contiguous noninvolved nodes and small foci of disease in the adjacent nodes. This therapeutic research has resulted in the application of irradiation to patients with more extensive disease. The initial short-term results from the Stanford group have been encouraging.⁹ Thus, at the present time patients with stages I and II, A or B, should be considered as prime candidates for curative radiotherapy to all areas of involvement. Patients with stage III disease, particularly III-B or IV, are at present best managed by chemotherapy.

Chemotherapy

The important advances in the chemotherapeutic management of patients with Hodgkin's disease have included the discovery of several new active agents and the use of combination chemotherapy. Alkylating agents have been the standard drugs used to manage active disease, such as single, large, intermittent doses of nitrogen mustard or cyclophosphamide or continuous low-dose oral maintenance with chlorambucil or cyclophosphamide. In the past decade several new classes of agents have been shown to affect favorably the growth of lymphoid tumors. The most important of these new agents are the Vinca alkaloid, vinblastine, and ibenzmethylin, a methylhydrazine derivative.¹⁰⁻¹⁷ In a recent study comparing vinblastine and cyclophosphamide the 2 agents were found to be equally effective in causing tumor regression in patients with Hodgkin's disease.¹³ The striking feature of the use of these agents is the apparent lack of cross resistance, allowing an orderly progression from one agent to the next with continued responses.

Recently evidence has accumulated supporting the use of drugs for maintaining remissions.^{13, 18} In one large recent study it appeared that intermittent reinduction treatment at the time of active disease may be as advantageous as continuous long-term maintenance. In this study by the Eastern Solid Tumor and Acute Leukemia B groups¹³ those patients who entered complete re-

mission did better, maintained or unmaintained, than their counterparts with only partial response.

Combinations of agents with qualitatively different toxicities have been used in acute leukemia and have resulted in an increase in the percentage of complete remissions and prolongation of the duration of unmaintained remission.¹⁹ Accordingly, in 1963 we began using combinations of drugs in Hodgkin's disease. An attempt was made to select agents with known activity but qualitatively different toxicities. A small pilot study was done on 14 patients, 7 with advanced disease.²⁰ The results were interesting because all but 2 patients went promptly into remission and 3 of the 7 with advanced disease remained in complete unmaintained remission* for an average of 30 months after 2½ months of intensive chemotherapy. It appears that the toxicity was not additive, but the therapeutic effect may have been.

more detailed discussion of this approach to the chemotherapy of Hodgkin's disease was the subject of a recent review.²²

Etiology and Pathogenesis

It may seem unusual to discuss etiology and pathogenesis of a disease after discussing approach to treatment, but, in general, therapy has advanced more rapidly than our knowledge of the etiology. At the National Cancer Institute a large effort is under way to reexamine this problem with the use of electron microscopy, viral, mycoplasma and tissue cultures, and implantation of tumor tissue into experimental animals in an attempt to isolate an etiologic agent or transmit the disease.

Investigators have long been aware of an apparent immunologic deficit in patients with Hodgkin's disease manifested by an inability to

TABLE 4: Chemotherapy of Hodgkin's Disease*

	Number Patients	Remission Total		Complete Remission		Partial Remission		No Response	
		<i>No.</i>	<i>Per cent</i>	<i>No.</i>	<i>Per cent</i>	<i>No.</i>	<i>Per cent</i>	<i>No.</i>	<i>Per cent</i>
SINGLE AGENTS†									
No prior therapy.....	76	54	(71)	20	(26)	34	(45)	22	(29)
Prior therapy.....	47	24	(51)	3	(6)	21	(45)	23	(49)
COMBINATION									
VLB + Chlorambucil‡.....	16	13	(81)	10	(63)	3	(19)	3	(19)
QUADRUPLE CHEMOTHERAPY§									
Stage II-B and III only.....	10	9	(90)	8	(80)	1	(10)	1	(10)
All patients.....	14	13	(93)	12	(86)	1	(7)	1	(7)

* Comparison of results of single agents and combinations of drugs on remission induction.

† Carbone et al.¹³

‡ Lacher.²¹ All patients had prior X ray or chemotherapy.

§ DeVita et al.²⁰

This small beginning has led to an examination of these results in a larger group of patients with advanced disease in a study now in progress at the National Cancer Institute. In this study the complete remission rate continues to be in excess of what can be expected from single agents. The duration of unmaintained remissions has also surpassed that usually obtained with single agents.¹³ In 1963 Lacher and Durant²¹ also reported the use of Vinca alkaloid, vinblastine, and chlorambucil in combination with an increase in the number of complete remissions. Table 4 gives a comparison of single agents,¹³ 2 agents,²¹ and the early combination study at the National Institutes of Health.²⁰ These results are provocative and serve as a stimulus to evaluate more aggressive therapy in patients with advanced disease. A

react to skin test antigens and the inability of their lymphocytes to transform normally in vitro.^{23, 24} Whether these abnormalities are causally related or a result of the disease is not known. However, the possibility of favorably altering their immune status as an ancillary means of controlling the disease is intriguing and presently under investigation at this institution.

There is room for optimism about Hodgkin's disease these days both for the patients and the physicians managing them. Patients with early local disease can be offered a reasonable chance of permanent control. Since most patients come with advanced disease a major effort is under way to help control this type of problem by combining effective agents and in general treating it more aggressively. Problems of etiology and pathogenesis are being reexamined.

* Meaning the duration of remission while off therapy.

(Continued on page 266)

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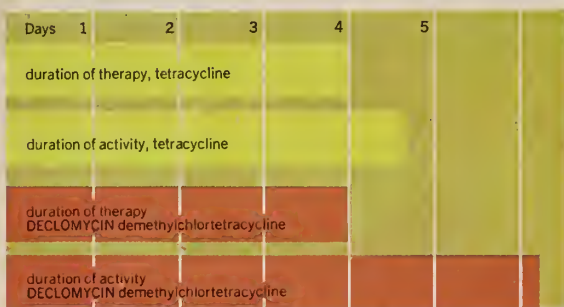
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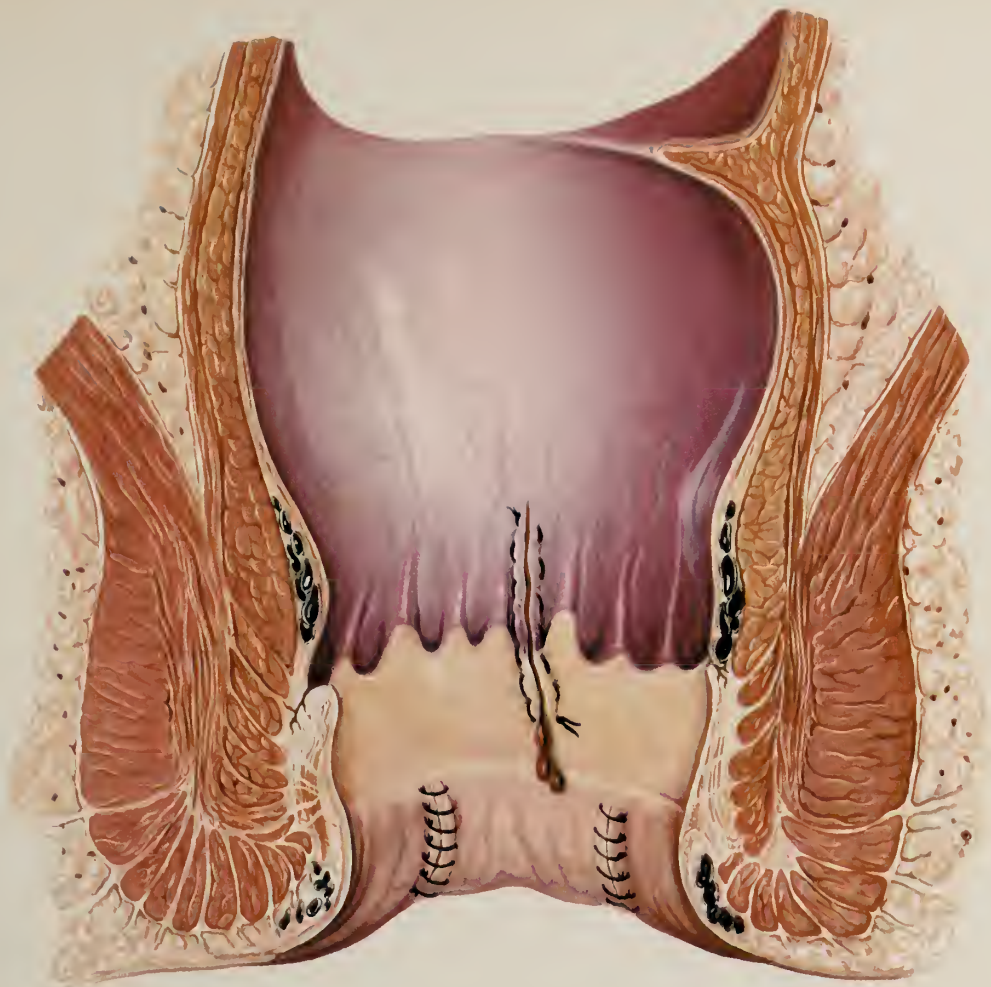
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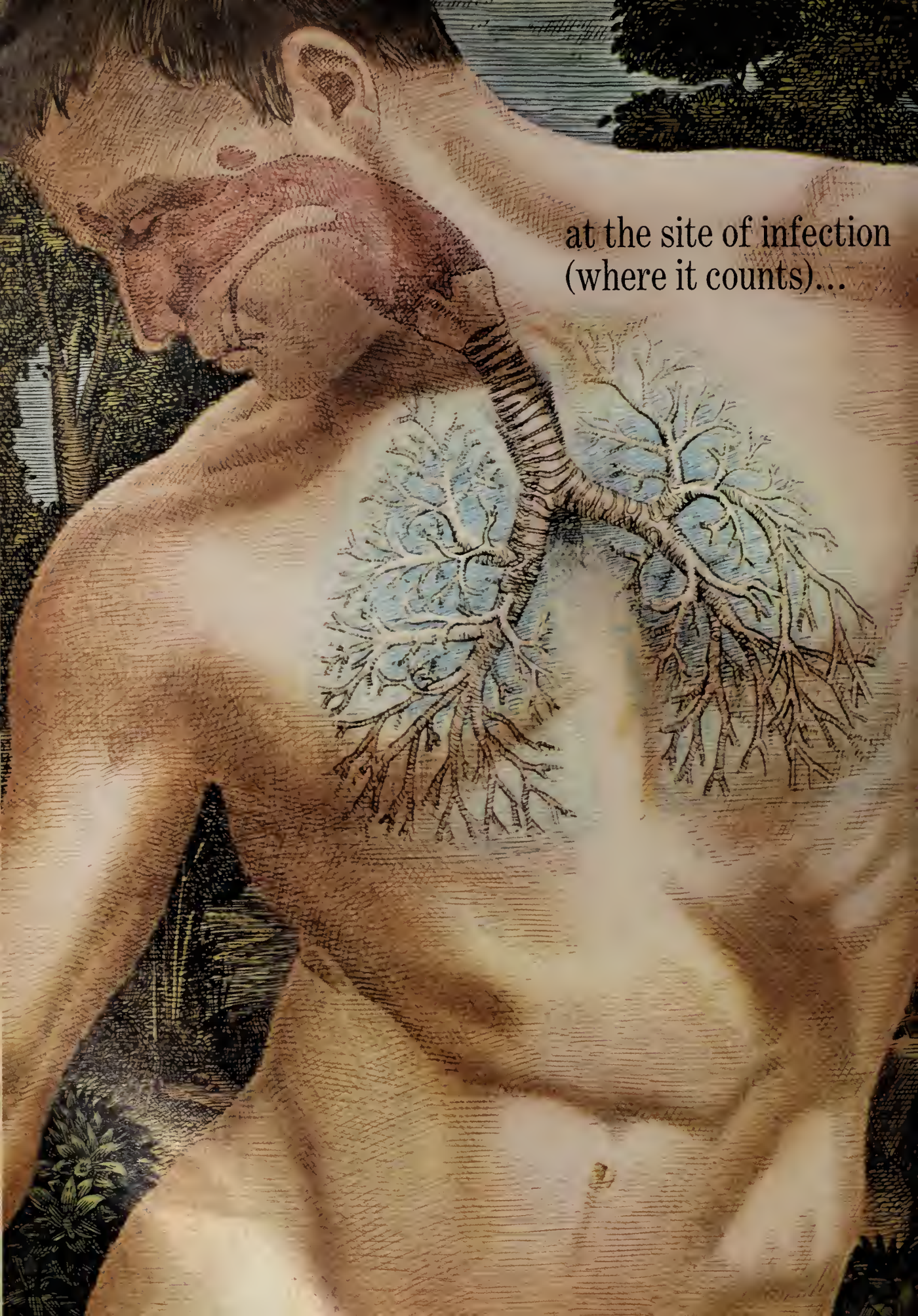
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Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

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For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

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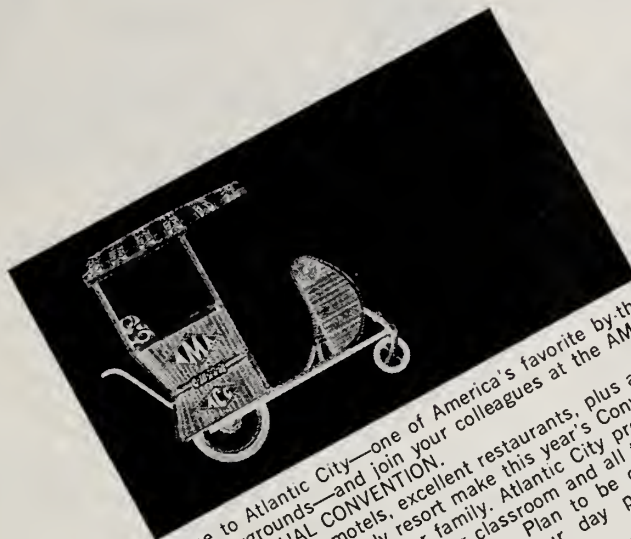
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References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

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A GREAT DEAL OF CONFUSION, uncertainty and misunderstanding in the practice of medicine could be eliminated by the universal adoption of a very simple technique: "Label contents."

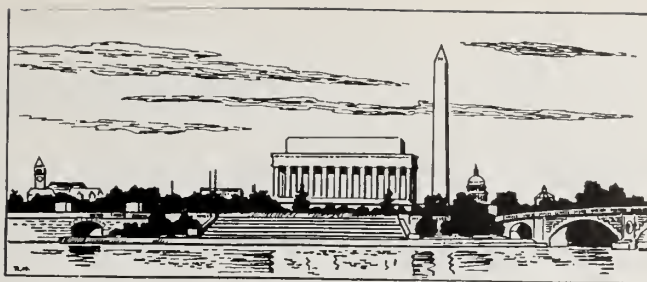
I am as opposed as any other doctor to regulated medicine. It is a matter of common sense, however, that all physicians specify that the prescriptions dispensed on their orders be designated by name on the container labels. This achieves a number of highly desirable aims: It enables the physician to answer questions and discuss changes in dose schedule with the patient by telephone; it gives the patient a better understanding of his treatment and promotes more intelligent co-operation with the physician; it fosters greater confidence and teamwork, because the patient becomes an associate in his treatment plan rather than a puppet; and it is of greatest value when the patient is

seen by another physician.

Review of a cluster of boxes and vials containing red, white and blue pills and capsules can be a most frustrating experience when the patient has no notion of which is for what. Labeling provides prompt and accurate information to a new doctor if the patient is on a trip, in an emergency room, or in the absence for any reason of the prescribing physician.

Considerable conflict is being waged currently with reference to generic versus brand names in prescribing drugs; perhaps we shall deal with that later. There should be no argument, however, against labeling the contents of a prescription at all times. If the patient understands, all the better for continuing treatment; if the patient is unable to understand, it certainly does no harm and can be of great help to others concerned with the patient's care. Make it a fixed practice: Always "label as to contents."

Henry D. Eckert



EDITORIALS

Six Objectives in a Five-year Cancer Detection Program

THE DISTRICT OF COLUMBIA DIVISION of the American Cancer Society is continuing its coöperation with the program initiated by national headquarters for full commitment of the Society's resources to aid in a stepped-up attack on 6 major sites of cancer. The doctor enjoys quite properly a very special role of influence in the community in this fight. Better than any layman, he can explain the unmet needs in research, in service, and in education.

Cancers of the uterus, colon and rectum, breast, oral cavity, lung and skin, readily accessible sites, constitute over 60 per cent of all cancer cases diagnosed and more than 48 per cent of all cancer deaths. Early and adequate application of present-day medical knowledge in detection and treatment of cancer at these 6 sites alone could save thousands of American lives and could prevent the development of cancer in thousands more.

Through the continuing efforts of other interested parties and the American Cancer Society emphasis, it is hoped that the following 5-year program objectives may be achieved:

1. The taking of Pap smear tests once a year from at least 75 per cent of all women over 21 years of age.

In uterine cancer, the painless, inexpensive Pap test can detect the disease before it can be seen. If treated at this stage, the percentage of cure approaches 100 per cent. In this respect the physician is the key to saving more lives by making these tests routinely.

2. The incorporation of proctosigmoidoscopy in the regular physical examination among at least 30 per cent of the general public over 40 years of age.

This year 43,000 Americans can be expected to die of this most common of all internal cancers. A relatively painless, 5-minute examination could save the vast majority of these victims. Done once a year, the proctoscope can discover early potential malignancies which have produced no symptoms. What ought to be among the most curable of cancers remains the second worst cancer killer, taking almost as many lives each year as automobile accidents. If present rates continue, more than 7 million Americans now living will develop cancer of the colon or rectum, and 2 out of 3 will die of it. Add to these facts the probability of saving tens of thousands of lives annually, and one must certainly ask why the proctoscopic examination is not a routine part of everyone's annual physical check-up.

3. The practice of monthly breast self-examination by at least 50 per cent of all women.

Breast cancer is the most common form of the disease in women. Once the physician has taught his female patients the proper techniques of self-examination, early detection of breast lesions is enhanced so that curative procedures may be more rewarding. Furthermore, when surgery is necessary, more of us as physicians should recognize the psychological changes experienced with a mastectomy. We should recognize the need which these women feel for more preparation, understanding, and rehabilitation both pre- and postoperatively.

4. The use of oral cancer detection programs by 50 per cent of the medical and dental professions to diagnose precancerous lesions and detect early (Stage I) neoplasms.

Through early oral cancer detection the esti-

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

mated 7,000 deaths annually from this disease could be greatly reduced. However, it behooves both the dentist and the physician to be thorough constantly in the examination of the oral cavity.

5. Reduction of cigarette smoking among teen-agers by 50%, among the public by 25%, and physicians by 50%.

It is estimated that today less than 30 per cent of doctors smoke cigarettes—half the number who smoked 10 years ago. What the physician does himself and what he tells patients to do will determine what Americans generally do about cigarettes in the years ahead.

6. The widespread dissemination of information to aid in prevention of skin cancer, which now takes the lives of 5,000 persons each year, resulting from excessive over-

exposure to sunlight and from environmental hazards.

We have to be realistic. Much to our regret, we have learned it is very difficult to motivate and persuade people to protect their own health. Long-established habits are not always easily overcome. Facts may be given to patients; persuading them to act is something else.

The American Cancer Society is seeking through all avenues of communication—word of mouth, pamphlets, films, press, radio and TV—to spread knowledge of cancer's warning signals and of the importance of annual health checkups. The answer seems clear: The physician is indeed the key to achieving these ends.

C. ROGER KURTZ, M.D.

*President, American Cancer Society,
District of Columbia Division*

A Significant Step by the Southern Medical Association*

NOT ALL NOTEWORTHY ADVANCES in the field of human relations are proclaimed in the headlines. The 1966 Annual meeting of the Southern Medical Association was held in Washington, D. C., November 14-17, supplanting, by invitation, the ANNUAL SCIENTIFIC ASSEMBLY of the Medical Society of the District of Columbia usually held at that time. Every member of the latter Society received an invitation both to the meeting and to join the Southern Medical Association. There can be no doubt that the Association was aware that the District of Columbia Medical Society has about 150 Negro members and that it had carefully considered what it was doing.

Some of the eligible Negro physicians accepted the invitation to join and have been billed for dues in the usual way. Moreover, those who attended the banquet found the cordiality customary at such affairs and no indication that anything special was being accomplished. Dr. Roland B. Scott, Professor of Pediatrics at Howard University, and his associates were awarded first prize for their exhibit at the meeting. Thus, simply and quietly, history has been made. The *Journal* and National Medical Association salute this progress, which may truly be regarded as only a beginning.

The President of the Southern Medical Association is Dr. Guy T. Wise, of Meridian, Mississippi.

The President-elect is Dr. Oscar B. Hunter, a distinguished pathologist of Washington, D. C. These officers, located at the opposite poles of the South, symbolize a potential line of communication which augments the spirit of the recent action of the S.M.A. May all physicians who would further the solution of our problems utilize this potential to the fullest.

Progress never moves at an even pace in all areas with respect to any field. Louisiana received attention in the September 1964 number of the *Journal of the National Medical Association* when Negro physicians were admitted to the staffs of 2 Baton Rouge hospitals despite the fact that the parish medical societies had not yet opened.

Things move but slowly in Louisiana; the *Journal of the Louisiana State Medical Society* for October 1965 (page 343) listed one of the regular committees of the Society for 1965-66 as the "Committee on Lectures for Colored Physicians." This approach might have been expected in 1865. But one does not deery an attitude 100 years behind the times nor lament that there are those who still do not understand that patronizing condescension is no longer tolerable. It seems better to express the hope that the example of the Southern Medical Association will be followed by all who would improve professional relationships in an atmosphere of mutual respect and dignity.

W. MONTAGUE COBB, M.D.

*Editor, Journal of the National
Medical Association*

* Reprinted by permission from the *Journal of the National Medical Association*, 1967, 59, 56.

Journals for the Taking

THROUGH A RECIPROCAL ARRANGEMENT, the MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA goes to every state or region of the United States and to many foreign countries. Current issues of the journals received in exchange for the ANNALS have been available for perusing in the library of the old Medical Society building and in the Doctors Lounge in the new building. The titles of those journals being received regularly in the Executive Offices of the Medical Society are listed below.

Members who wish to do so may take these publications to their home or office for reading at their leisure. The only requirement is that they pick them up on a "first come first served" basis; mailing copies is too costly.

State Medical Journals

Alabama Medical Association
 Arizona Medicine
 Arkansas Medical Society
 California Medicine
 Connecticut Medicine
 Delaware Medical Journal
 Florida Medical Association
 Georgia Medical Association
 Hawaii Medical Journal
 Illinois Medical Journal
 Indiana State Medical Association
 Iowa Medical Society
 Kansas Medical Society
 Kentucky Medical Association
 Louisiana State Medical Society
 Maine Medical Association
 Maryland State Medical Journal
 Massachusetts Physician
 Michigan Medicine
 Minnesota Medicine
 Missouri Medicine
 Nebraska State Medical Journal
 New England Journal of Medicine
 New Jersey Medical Society
 New York State Journal of Medicine
 North Carolina Medical Journal
 Northwest Medicine
 Ohio State Medical Journal
 Oklahoma State Medical Association
 Pennsylvania Medicine
 Rhode Island Medical Journal
 Rocky Mountain Medical Journal
 South Carolina Medical Association
 South Dakota Journal of Medicine
 Tennessee Medical Association
 Texas Medicine
 Virginia Medical Monthly
 West Virginia Medical Journal
 Wisconsin Medical Journal

County and City Medical Society Bulletins

Allegheny County (Pa.) Medical Society
 Arlington County (Va.) Medical Society
 Bronx County (N. Y.) Medical Society
 Chicago (Ill.) Medicine
 Cleveland (Ohio) Academy of Medicine
 Columbus (Ohio) Academy of Medicine
 Detroit (Mich.) Medical News
 Fresno County (Calif.) Medical Society
 Fulton County (Ga.) Medical Society
 Greater Kansas City (Mo.) Medical Bulletin
 Greene County (Mo.) Medical Society
 Hennepin County (Minn.) Medical Society
 Kings County (N. Y.) Medical Society
 Los Angeles County (Calif.) Medical Association
 Nassau (N. Y.) Medical News
 New Jersey Academy of Medicine
 New York Academy of Medicine
 New York (N. Y.) Medicine
 Philadelphia (Pa.) Medicine
 Pierce County (Wash.) Medical Society
 Queens County (N. Y.) Medical Society
 St. Louis (Mo.) Medical Society
 San Francisco (Calif.) Medical Society
 Westchester (N. Y.) Medical Bulletin
 Worcester (Mass.) Medical News

Domestic Medical Journals (Misc.)

Albert Einstein Medical Center, Journal of the
 American Druggist
 American Medical Women's Association, Journal of the
 Anesthesiology
 Boston Medical Quarterly
 Cancer Bulletin
 Children
 Circulation
 Clinical Clippings
 Clinical Medicine
 Clinical Pediatrics
 Current Medical Digest
 Current Therapeutic Research
 Diseases of the Chest
 E.E.N.T. Digest
 Elisha Mitchell Scientific Society, Journal of the
 Federation Bulletin
 Georgetown University Medical Center, Bulletin
 GP
 Group Practice (Journal of the American Association of
 Medical Clinics)
 Guthrie Clinic Bulletin
 Harper Hospital Bulletin
 Harvard Public Health Alumni Bulletin
 International Surgery
 JAMA
 Lahey Clinic Bulletin
 Marquette Medical Review
 Mayo Clinic Proceedings
 MD's Wife
 Medical Arts and Sciences (Journal of the Loma Linda
 University School of Medicine)
 Medical Care Review

Medical Digest
 Medical World News
 Menninger Clinic, Bulletin of the
 Military Medicine
 National Capital Pharmacist
 New Physician, The
 Pharmaceutical Sciences, Journal of
 Public Health Reports
 R.N.
 Southern Medical Journal
 Statistical Bulletin (Metropolitan Life Insurance Company)
 Temple University Medical Alumni Bulletin
 Texas Reports on Biology and Medicine
 Today's Health
 U. S. Navy Medical News Letter
 University of Maryland School of Medicine, Bulletin
 World Medical Journal
 World-Wide Abstracts of General Medicine

Foreign Medical Journals

AUSTRALIA

Australian and New Zealand General Practitioner
 Australian Journal of Experimental Biology and Medical Science

BRAZIL

Arquivos de Gastroenterologia
 Revista do Instituto de Medicina Tropical de São Paulo

CANADA

British Columbia Medical Journal
 Ontario Medical Review

DENMARK

Danish Medical Bulletin

ENGLAND

British Medical Journal
 Hospital Medicine
 Proceedings of the Royal Society of Medicine

FINLAND

Annales Medicinae Internae Fenniae
 Annales Paediatricae Fenniae

JAPAN

Gunma Journal of Medical Sciences
 Japanese Journal of Medicine
 Keio Journal of Medicine, The
 Kurume Medical Journal, The
 Nagoya Journal of Medical Science
 Nagoya Medical Journal
 Osaka University, Medical Journal of
 Wakayama Medical Reports
 Yokohama Medical Bulletin
 Yonago Acta Medica

MEXICO

La Prensa Medica Mexicana
 Temas de Historia Medica Mexicana

THE NETHERLANDS

Excerpta Medica

PERU

Anales de la Facultad de Medicina
 Revista de la Sanidad Naval del Peru
 Revista del Viernes Medico

THE PHILIPPINES

Philippine Journal of Surgery and Surgical Specialties

ROMANIA

Romanian Medical Review (English tr.)
 L'Information Medical Roumaine (Romanian)

SCOTLAND

Scottish Medical Journal

SPAIN

Galicia-Clinica

TURKEY

Acta Medica—The Bulletin of the Ankara University Medical Faculty (English tr.)
 Tip Fakultesi Mecmuasi—The Journal of the Faculty of Medicine, University of Ankara (Turkish)
 The Turkish Journal of Pediatrics

AMA Policy on Chiropractic

THE AMERICAN MEDICAL ASSOCIATION has adopted an official policy on chiropractic. Initiated by the Committee on Quackery and presented by the Board of Directors, the following statement was adopted unanimously by the House of Delegates at the Clinical Convention in November, 1966:

"It is the position of the medical profession that chiropractic is an unscientific cult whose practitioners lack the necessary training and background to diagnose and treat human disease. Chiropractic constitutes a hazard to rational health care in the United States because of the substandard and unscientific education of its practitioners and their rigid adherence to an irrational, unscientific approach to disease causation.

"In 1965, a United States District Court, in upholding a state's constitutional right to refuse to license chiropractors, said that 'since chiropractic claims to be a complete and independent healing art capable of curing almost all kinds of disease, the state Legislature may have felt that the requirement of a foundation in materia medica and surgery . . . would be a protection to the public.' Without dissent, the United States Supreme Court affirmed the decision.

"The wisdom of these decisions by the Nation's highest courts justifies the medical profession's educational program of alerting the Nation to the public health threat posed by the cult of chiropractic.

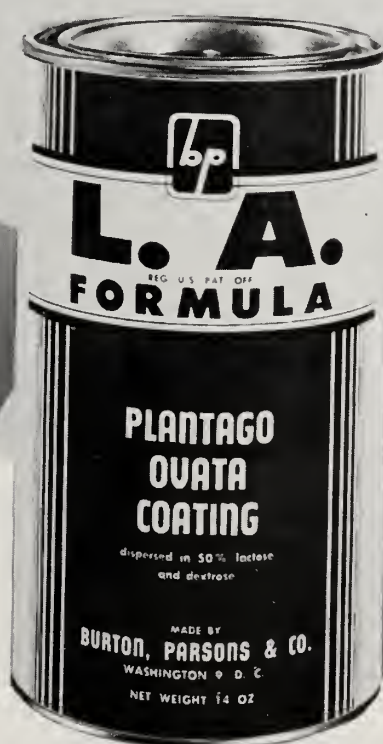
"Patients should entrust their health care only to those who have a broad scientific knowledge of diseases and ailments of all kinds and who are capable of diagnosing and treating them with all the resources of modern medicine. The delay of proper medical care caused by chiropractors and their opposition to the many scientific advances in modern medicine, such as lifesaving vaccines, often ends with tragic results."

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The AMA Comments on the "Brain Drain"*

IN THE PAST 8 YEARS nearly 125,000 of Europe's best educated young people have in one way or another sought admittance into the United States. They are graduate physicians in search of high-quality advanced education and the right to work unfettered by red tape and restrictions. Not finding these objectives in their home-lands, they turned to the United States.

Actually only a fraction of the 15,000 to 20,000 hopeful young doctors seeking entry each year ever arrive here. Figures of the Association of American Medical Colleges show that of those who take the Educational Council for Foreign Medical Graduates examination, only about one-fifth are accepted.

Still, that means that about 4,000 are arriving from Europe annually to work and study in medical schools and hospitals. And a large number of these are staying to practice medicine. They are of all nationalities—German, French, Austrian, Swedish, and especially English. And their loss has helped create what for Europe is a major problem—the so-called "brain drain."

Medicine is not the only branch of science involved in the brain drain. Europe is also losing engineers, chemists, physicists—in fact, scientists and technicians in all areas—to the United States. But the major exodus seems to be among the medically oriented.

The implications of the flight of these young, scientifically-educated have European leaders frankly worried. There is concern that the Continent has become undeveloped scientifically and technologically in comparison with the United States, and the gap is growing.

Even the Russians are fretful. For while they permit no emigration, they feel that because of the absence of scientific give-and-take in Europe generally, their own scientific programs are suffering. Premier Kosygin of the Soviet Union made this clear during his visit to France. He proposed a "technological alliance" between Russia and Western Europe in order to end what he indicated was the dependence of Europe on advances made in the United States.

Far more concerned with the outcome of the brain drain, however, is Great Britain. The emigration of its young physicians has threatened Britain's National Health Service (NHS) with collapse. According to their own surveys, about one-third of Britain's medical graduates are leav-

ing the country each year. Moreover, the number of medical students going into training has been falling steadily.

An eminent barrister, R. H. Davison, outlining the British Health Service dilemma, reported in the *British Medical Journal*: "Not only has the NHS provided outrageous terms and conditions of service, it has completely failed to inspire respect among the younger members of the profession who see through its Fabian humbug." He noted that even the supply of doctors being imported from Pakistan and India to help fill the vacuum of British doctors was dwindling, and he criticized the government suggestion "that the advent of the Common Market will permit us to import Italian doctors to run our Health Service."

"Clearly," Davison wrote, "14 years of socialism have made us completely shameless, for no one can believe these policies to be in the national interest."

That was 5 years ago. Since then the tempo of emigration from Britain has accelerated despite government efforts.

Why? The consensus of those British physicians arriving in this country seems to be that they have no wish to be "handmaidens of the government."

As one young resident said: "We're not exactly forced into servitude by the government, but we're not exactly free to practice our profession either."

"At least in America there is still a choice. But what would happen if that choice were removed, as it has been in Europe? Where would American doctors emigrate to?"

What has caused the drain of European brains? Is it money? Or is it something else?

Partly it is money. British interns say they work an average of 100 hours a week for less than \$200 a month. That figures out to about 45 cents an hour. But the greater issue clearly is one of "scientific climate." Overregulated conditions have served to stymie scientific inquiry; without scientific inquiry there is lack of stimulation, and without stimulation scientific advancement suffers. So goes the analysis of what is wrong with science in Europe.

This, of course, is an oversimplification. But the fact is that the young, scientifically-oriented have shown by their desire to vacate Europe that something about the scientific climate there is inadequate, if not stifling. And whatever it is, the medical school graduates of Europe have turned to the United States in order to get into the mainstream of medical science.

* Prepared by the Science News Department of the American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610.

American medicine became a lure to European doctors following World War II when it became clear that the United States had emerged in the forefront of medicine. And despite the efforts by some to downgrade the image of American Medicine in order to foster a European system of medicine in this Nation, the United States has continued to better its standing. If this were not so the "brains" of Europe would not be seeking entry. For they crave scientific excellence along with freedom to practice their profession.

How good is medical science in America? A clear-cut answer is not easily obtained. Some critics, basing their argument wholly on one statistic or another, contend it is not very good. They maintain that because the infant mortality rates and the average life span in certain small European nations are somewhat better than our statistics these nations have better medicine.

Actually such statistics fail dismally as a yardstick for measuring the quality of a nation's medicine. Totally ignored in the conjectures based on these tables are such factors as genetic makeup, economic conditions, educational levels, and other matters, including abortion laws, all of which are reflected in statistics. For example, one of the best assurances of a ripe old age is to be born into a family with a history of longevity. This is a

matter of genes and has nothing to do with medicine. Medicine, of course, plays a role in longevity, but it is only one factor of several. Similarly, one of the best buffers against infant mortality is a mother well educated in the facts of childbearing before she becomes pregnant.

The fact is, of course, medical and scientific quality cannot be based on one lone statistical table. Rather it must be judged on the sum total of numerous factors. Such a compilation clearly indicates that the young Europeans are probably right—the United States is the leader in medical science.

In the 21 years since World War II 23 Americans have been awarded the Nobel Prize in medicine and physiology. That is more than was won by physicians and scientists from all of the other countries of the world combined.

In the same period well over half of all the major new drug discoveries were developed in this country. As a matter of fact, 80 per cent of the prescriptions written today could not have been written 10 years ago because the drugs did not exist.

But medical progress cannot be measured only in the laboratory. It must also be measured in terms of people, disease, and facilities. Thus the fact that

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America was building 750 hospitals in the same time that England was building 1 also enters the picture.

So do such matters as the rate of death from various diseases. The death rate from cancer in America, for example, is well below the rate of Western Europe. And since cancer is treatable to some extent, our lower death rate could be interpreted as better medical treatment. The same holds true for other treatable diseases, including tuberculosis, pneumonia, strokes, and influenza. All of these kill fewer people here per capita than in Western Europe.

What it all adds up to is this: Four and a half million Americans alive today would be dead if medicine were practiced with the same amount of knowledge and the same tools as it was just 25 years ago. In that time span—in the past 25 years—medicine has learned more than it learned in the previous 50 centuries.

No one can assign a nationality to such knowledge. It is worldwide. But when it comes to teaching and applying that knowledge, the rest of the medical world looks to the United States for leadership.

Health Dept. Notes

Measles

IT HAS BEEN ESTIMATED that more than 4 million children get measles in the United States each year. One child in 6 develops serious complications as a result of the disease. Of the 4,000 children who develop encephalitis as a complication of measles, about 1,600 become mentally retarded.

Measles pneumonia is responsible for most of the infant deaths from measles.

The Vaccination Assistance Act, passed by Congress in 1962 and amended in 1965, provides funds for the purchase of live measles vaccine. The vaccine is offered to health departments receiving grants under this Act.

Since the live measles vaccine became available in the District 2 years ago, more than 20,000 preschool children have taken part in the measles immunization program of the D. C. Department of Public Health.

Preschool children attending our child health clinics receive protection against measles. Our immunization clinic at Delaware Avenue and I Street, S.W., is open at noon on Wednesdays, and the clinic at 14th and Q Streets, N.W., is open at noon on Fridays for measles immunizations. More than 1,500 children enrolled in the 1966 Head Start Program were immunized.

When the opportunity arises special clinics are conducted by the Department in cooperation with volunteer groups. At these clinics a jet injector is used to inoculate some 400 preschool children each hour.

An example of a special clinic was the cooperative effort with the Child-Day-Care Association at the Lincoln Congregational Church. About 200 children of the group were inoculated with the jet injector in about 30 minutes. Members of the Association assisted in the mass immunization program. More of this type of cooperative program can assist us greatly in our efforts to stamp out measles in the District.

We have expanded the program to make the vaccine available to all District school children in the first and second grades.

Parents must be made aware of the importance of the measles vaccination program so that their children may be provided the benefits of lifetime

immunity against this disease. To this end our health education staff conducts door-to-door campaigns, meets with community groups, shows films, distributes literature, and prepares public information releases to encourage parents to seek measles immunization for their children in physicians' offices or public clinics.

Eradication of measles can be accomplished with these 4 essential steps:

1. Routine immunization of infants. All children should receive the measles vaccine at about 1 year of age. This practice should be a part of the regular schedule of pediatric practice and well-baby care. It should become as routine as smallpox, DPT and polio immunizations. When this becomes a universal practice for all infants, the following 3 steps become of diminishing importance.

2. Immunization upon entrance into school. All children not inoculated in infancy and who escape the disease should be immunized against measles just before admission to school, including kindergarten, nursery school, and day-care homes.

3. Surveillance. Effective control depends on knowledge of incidence and epidemiological characteristics of current cases. Intensive efforts should be initiated by physicians to promptly report all measles cases by name, address, and date of onset.

4. Epidemic control. Whenever a cluster of cases of measles is reported in a previously uninfected area, the threat of an epidemic is imminent. Immediate steps should be taken to trace the source of infection, detect other unreported cases, and determine exposed susceptible contact. From this information the plan for containment of the outbreak can be executed promptly.

Measles has an attack rate of 90 per cent among unprotected children, disabling thousands and causing at least 500 deaths each year in the United States. This can be prevented; the D. C. Department of Public Health is eager to join forces with local physicians and parents to prevent widespread measles infection.

MURRAY GRANT, M.D., D.P.H.
D. C. Director of Public Health

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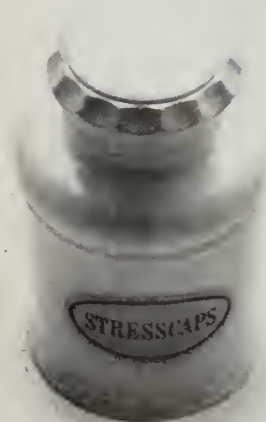
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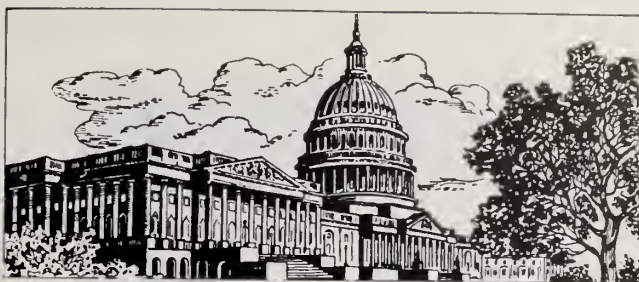
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NEWS & PERSONALS

Meetings

The 116th Annual Convention of the American Medical Association will be held in Atlantic City, N. J., June 18-22. Convention Hall and surrounding hotels will house the scientific program. The House of Delegates will meet at the Chalfonte-Haddon Hall Hotel.

Twenty-two scientific sections will offer programs individually, and many will hold joint meetings on subjects of common interest. Color telecasts will be broadcast live from a Philadelphia Hospital in coöperation with the University of Pennsylvania School of Medicine. Among special presentations planned are 4 general scientific sessions on backache, healing, patient care, and sex.

The 44th Annual Convention of the Woman's Auxiliary to the AMA will be held concurrently, with Convention Headquarters at the Shelburne Hotel. Dr. Charles L. Hudson, President of the AMA, will be the luncheon speaker on Tuesday, June 20. On Tuesday morning Dr. Mary Calderone, noted proponent of sex education, will be the featured speaker. The Auxiliary will also sponsor a teenage program for children of physicians and guests attending the AMA Convention.

The entire scientific program for the AMA meeting will be published in the May 8 issue of *The Journal of the American Medical Association*.

The ninth Annual Meeting of the American Association for the Study of Headache will be held in Atlantic City, N. J., at the Colony Resort, June 17, just preceding the meeting of the AMA. There will be many distinguished speakers from the Midwest and the Eastern Seaboard as well as 2 from overseas. Dr. Robert E. Ryan, President of the Association, will moderate an Eye, Ear, Nose and Throat Symposium on Headache.

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Champagne Party**

Saturday Evening, May 20, 9:30-12:00

Proceeds will benefit nursing scholarships,
Children's Hospital, and AMA-ERF.

Music by Sammy Ferro Orchestra

Please hold this date open.

The 32nd Annual Congress of the International College of Surgeons will convene at the Americana Hotel in Bal Harbour, Fla., April 30-May 4. Attendance will embrace surgeons from the United States, Canada, Mexico, Central America, and the Carribean.

Latest advances in the fields of cancer, open heart surgery, peptic ulcer, gallbladder, industrial and automobile injuries, fractures, skin grafting of the hands, face and body, and shock will be discussed in formal lectures and in informal luncheon round table meetings. Among the lecturers will be Dr. Charles A. Hufnagel, Professor of Surgery at Georgetown University.

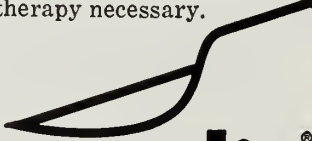
Further information regarding the meeting may be secured from the College, 1516 Lake Shore Drive, Chicago, Ill. 60610.



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Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
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...adsorbs irritants with kaolin,
and protects intestinal mucosa.

Whether it's a 24-hour "bug", a food problem, or simply nervousness and anxiety, Parepectolin will bring the diarrhea under control until etiology can be determined. In some cases, Parepectolin may be all the therapy necessary.



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Each fluid ounce of creamy white suspension contains:

*Paregoric (equivalent) (1.0 dram) 3.7 ml.
Contains opium ($\frac{1}{4}$ grain) 15 mg. per fluid ounce.

warning: may be habit forming

Pectin (2½ grains) 162 mg.
Kaolin (specially purified) (85 grains) 5.5 Gm.
(alcohol 0.69%)

Usual Adult Dose: One or two tablespoonfuls three times daily.

Usual Children's Dose: One or two teaspoonfuls three times daily.



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A Cardiovascular Pathology Course will be held at the Armed Forces Institute of Pathology in Washington, D. C., May 1-5. Attendance is limited to the first 300 applicants. There is no fee for the course. Application should be sent to the Director, Armed Forces Institute of Pathology, Washington, D. C. 20305.

The Washington Society of Pathologists will be host at an all-day **joint meeting with the Baltimore Pathological Society** on Saturday, May 13, at the National Institutes of Health in Bethesda, Md.

General News

"Beware the Wind," a color documentary on air pollution, was broadcast over WRC-TV in Washington during the evening of March 20. The film was produced by the George Washington University Airlie Center, in coöperation with the Medical Society of the District of Columbia, in order to focus professional and public attention on air pollution, the problems it creates, and possible approaches to the task of reducing pollution. Robert Preston was the narrator.

Senator Edmund S. Muskie, Chairman of the Senate Subcommittee on Air Pollution, and Dr. Robert J. Coffey, immediate Past President of the D. C. Medical Society, took part in the open-end discussion which focused on the problem in the city of Washington. The panel was moderated by Dr. Murdock Head, Chairman of the Air Pollution Committee of the Medical Society.

"Beware the Wind" will be made available to broadcasters and to civic and professional groups throughout the United States to increase public awareness of air pollution and to encourage community action.

The American Geriatrics Society announces that 3 grants, each in the amount of \$1,800, have been renewed in order to encourage resident physicians to devote more time to the study of medical problems of the aging. The grants, inaugurated by Lederle Laboratories in 1962, will supplement the salaries of the physicians. They will cover the period between July 1967 and June 1968.

Application for the grants should be addressed to the Chairman, Fellowship Committee, AGS, 10 Columbus Circle, New York, N. Y. 10019. Deadline for applications is June 1, 1967.

The American College of Gastroenterology, in coöperation with William H. Rorer, Inc., of Fort Washington, Pa., announces the **1967 Rorer Awards Contest** for the best unpublished paper in gastroenterology or an allied subject. There will be first, second and third prizes of \$500, \$300, and \$200, respectively. The papers must represent original work and must not have been previously presented at meetings of any National Society; their contents may be clinical or basic science. They should be addressed to the Research and Scientific Investigation Committee of the College, 33 West 60th Street, New York, N.Y. 10023. All entries must be received no later than June 15, 1967.

The Obstetrical Board of the District of Columbia is made up of representatives of all the hospitals in D. C., the Washington Gynecological Society, the Medical Society of the District of Columbia, and the D. C. Department of Public Health. Its purpose is to review all maternal deaths which occur in Washington, D. C.

Presently the Chairman is Dr. Samuel M. Dodek and Vice Chairman is Dr. Edmund F. Daley. Dr. Edward R. Wernitznig has been elected Secretary. Dr. Wernitznig, who recently retired with the rank of Colonel after having served more than 31 years in the Medical Corps of the U. S. Army, is presently Director of the Maternity and Infant Care Project of the D. C. Public Health Department.

Dr. Thomas J. King, of Philadelphia, has been **appointed Professor of Biology at Georgetown University School of Medicine**, effective July 1. An experimental embryologist, Dr. King has been Chairman of the Embryology Department at The Institute for Cancer Research in Philadelphia since 1956. A native of New York City, he received his Master's and Ph.D. degrees at New York University, the latter in 1953.

Under a provision of Medicare legislation, **Children's Hospital of D. C.** has received a grant of \$1,700,000 from the U. S. Children's Bureau. The Hospital thus becomes the 27th recipient in the United States designated to initiate programs aimed at total health care for needy youngsters within a limited area. Dr. J. William Oberman, who was Director of the Outpatient Department of the Hospital from 1957 to 1960, has been named Medical Director of the program.

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The Federal grant represents 75 per cent of the estimated cost of the project. Part of the Hospital's 25 per cent contribution will be composed of the services of individuals presently on the staff who will be assigned to the project. The program is intended to complement other comprehensive health care projects now in the planning stage by the D. C. Department of Public Health.

Hillcrest Children's Center held "open house," Sunday, January 29, at its new building at 1325 W Street, N.W. At a meeting at the Center, February 14, 4 pediatricians, pioneers in child psychiatry in Washington, were honored, namely, Drs. William S. Anderson, William A. Howard, John A. Washington, and Montgomery Blair, who was unable to attend. The new building is adjacent to Children's Hospital, where the 4 doctors established a Department of Psychiatry in 1948. In 1962 Hillcrest became allied with the Hospital and began to provide a training ground for doctors studying the mental health of children. Dr. Reginald S. Lourie is Medical Director of Hillcrest and also Chairman of the Department of Psychiatry at Children's. Mr. Nicholas J. Long is the Center's Executive Director.

The U. S. Department of Health, Education, and Welfare, Public Health Service, announces several new publications, most of them self-explanatory by title:

"Research Explores Pyorrhea and Other Gum Diseases" (PHS Publication No. 1482) and "Research Explores Dental Decay" (PHS Publication No. 1483), both prepared by the National Institute of Dental Research.

"Chronic Bronchitis and Emphysema" (PHS Publication No. 1103-F), a publication of the Chronic Respiratory Disease Program.

"Cost and Acquisition of Prescribed and Non-prescribed Medicines, United States, July 1964-June 1965" (PHS Publication No. 1000, Series 10, No. 33), just released by the PHS National Center for Health Statistics.

Single copies of these reports and publications may be obtained free from the Public Health Service, Washington, D. C. 20201.

"Skin and Scuba Diving Fatalities in the United States"—an analysis of underwater diving fatalities in 1965, of which fatalities 26 were skin divers and 60 were scuba divers. This pamphlet is available upon request to the Public Health Service, Division of Accident Prevention, 800 North Quincy Street, Arlington, Va. 22203.

The American Board for Certification in Orthotics and Prosthetics, Inc., which was organized in 1948, issues an annual Registry which lists the individuals and facilities that have been certified by the Board in these fields. The 1967 Registry of Certified Facilities and Individuals is now being distributed. A copy may be obtained by addressing the Board at 919 18th Street, N.W., Washington, D. C. 20006.

The certified facilities in the District of Columbia are J. E. Hanger, Inc., Orthopedic Appliance Facility of Walter Reed General Hospital, R & G Orthopedic Appliances, Inc., and University Artificial Limb Company.

Personals

The Board of Trustees of the American Medical Association through its Chairman, Dr. Wesley W. Hall, announces the following appointments and reappointments of members of the D. C. Medical Society to the AMA Council and Committee staffs. New appointees are:

Dr. William J. Kennard, to the Committee on Aerospace Medicine of the Council on Occupational Health.

Dr. John A. Kenney, Jr., to the Subcommittee on Skin of the Committee on Rating of Mental and Physical Impairment.

Reappointments include:

Dr. James E. Fitzgerald, to the Council on National Security.

Dr. Raymond T. Holden, Chairman of the Committee on Human Reproduction.

Dr. Dale C. Cameron, Chairman of the Committee on Alcoholism and Addiction of the Council on Mental Health.

Dr. Charles E. Rath, Jr., to the Committee on Blood.

At the 16th Annual Scientific Session of the American College of Cardiology, held in Washington, D. C., February 15-19, **Dr. John B. Johnson** was elected Treasurer. **Dr. Charles A. Hufnagel** was one of the newly elected Trustees of the College. Dr. William Likoff, of Philadelphia, assumed the presidency of the College at this meeting.

Dr. J. Richard Thistlethwaite was awarded a "Golden Apple" during an evening of fun, March 1, provided by the medical students of George Washington University. The award is made to the member or members of the faculty who, in the opinion of the students, have contributed the most to them during their first 2 years of medical school.

Dr. Thistlethwaite, Associate Professor of Surgery, has been a member of the faculty since 1953. He has served as Chief Medical Officer of the Department of Surgery, D. C. General Hospital, for 13 years. He received his medical degree from Duke University.

Microbiologist Rudolph Hugh, Ph.D., received a similar award. As Associate Professor of Microbiology, his special interests lie in taxonomy and nomenclature of medical and paramedical bacteria. His wife, a Washington physician, Dr. Violet Bowen Hugh, is an Active member of the D. C. Medical Society.

Dr. John W. Walsh, brother of Dr. William B. Walsh, founder of Project HOPE, is on his first tour of duty with the Hospital Ship, *S.S. Hope*. A well known obstetrician, Dr. Walsh will head a rotating staff of 3 obstetricians and gynecologists for a month in Cartagena, Colombia. The vessel sailed from Miami, February 12.

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Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on

rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

Dosage: 1 Extentab morning and evening, or as needed.

Supplied: Bottles of 100 and 500.

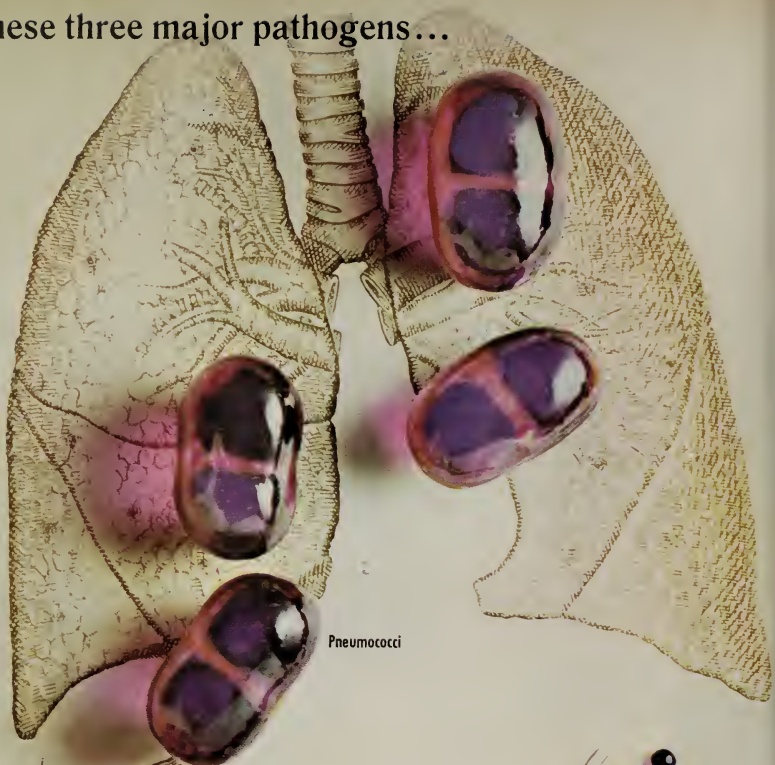
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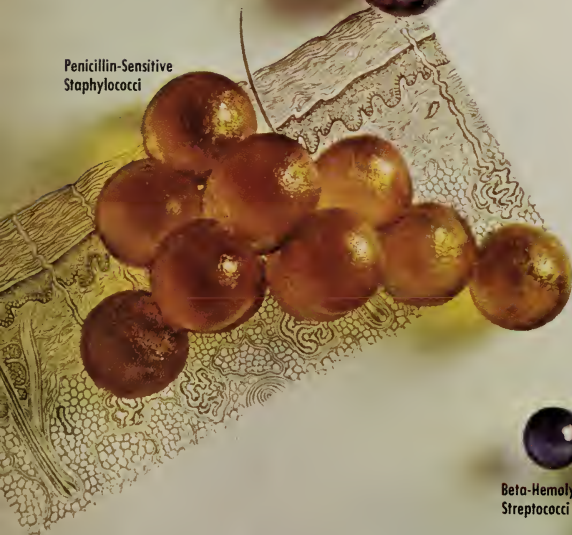
*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Against these three major pathogens...



Pneumococci

Penicillin-Sensitive
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Beta-Hemolytic
Streptococci



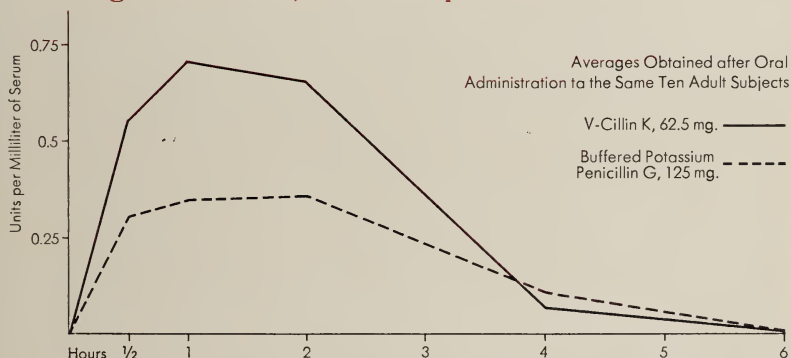
V-Cillin K[®] provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive)		Streptococcus, Group A		Diplococcus Pneumoniae	
	Median	Range	Median	Range	Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food

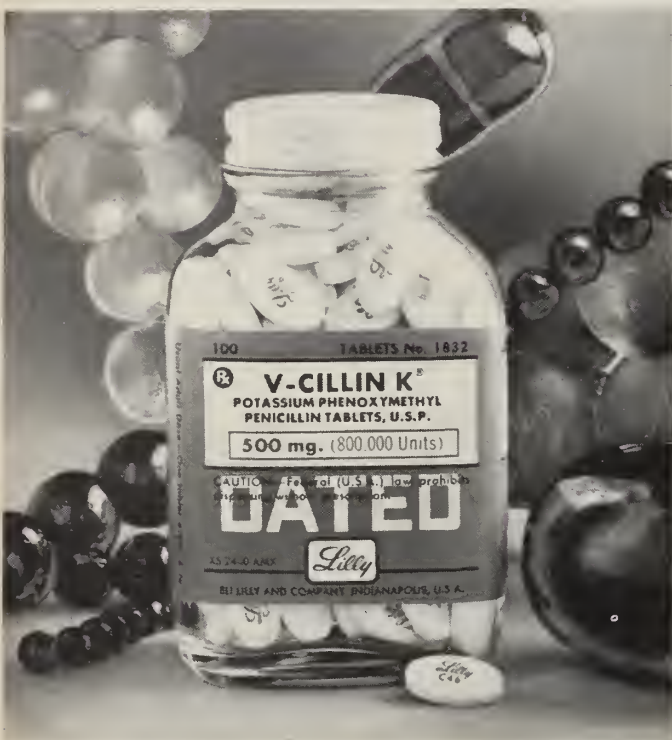


Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K[®]  700157
Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses



Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxy-methyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxy-methyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in

those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100, 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

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*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

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Obituaries

Janvier Whitton Lindsay, B.A., M.D., F.A.C.P. (1881-1967)

DR. JANVIER W. LINDSAY, Washington physician for many years and a member of the partnership, Drs. Lindsay, Rice and Selinger, died, March 2, 1967 at Cocoa Beach, Fla., where he had lived for about 6 months. After leaving Washington in 1949 he had resided at "Langsyne," his home in Lewes, Delaware.

Dr. Lindsay was born in East Orange, N. J., October 11, 1881. He received his Bachelor's degree from Columbia University in 1904 and his medical degree from Johns Hopkins University in 1908. After interning at Garfield Memorial Hospital from 1908 to 1910 he served for 2 years as Chief Resident Physician. He continued his association with Garfield, serving as Director of the Clinical and Pathological Laboratories for 37 years. From 1919 to 1939 he was also pathologist at Children's Hospital.

Dr. Lindsay organized the blood bank at Garfield and Children's Hospitals, among the first in Washington. He was one of the original founders of the Warwick Cancer Clinic, now a part of George Washington University. "Ph.D. . . . The Philosophy of a Doctor," written after he retired, was published in 1957.

He was elected to Active membership in the Medical Society of the District of Columbia in 1912 and became a Life member in 1953. He was a diplomate of the American Board of Pathology, a member of the American Medical Association, a Fellow of the American College of Physicians and the College of American Pathologists, a founder of the American Society for the Study of Neoplastic Diseases, and a member of the Clinico-Pathological Society of Washington and the Washington Academy of Medicine. He was also a member of the Cosmos Club.

He leaves 2 daughters, Mrs. George Peacock, of West Springfield, Mass., and Mrs. William E. Miller, of Cocoa Beach, Fla., and 2 sons, Janvier W. Lindsay II, of Chicopee Falls, Mass., and Maurice E. Lindsay, of Johnson City, Tenn. A brother, Alfred Lindsay, of Burlington, N. C., also survives.

Frank Marks McChesney, M.D. (1883-1967)

DR. FRANK M. MCCHESENEY, a Life member of the Medical Society of the District of Columbia, died, February 23, 1967, at the Presbyterian Home of the District of Columbia, 3050 Military Road, N.W. He was formerly Medical Director of Government Employees Insurance Company and Equitable Life Insurance Company.

Dr. McChesney was born, December 23, 1883 in Wilson, N. Y., to Oscar S. and Carrie B. McChesney. He worked for more than 15 years as a clerk and later a supervisor in the Treasury Department before he decided to study medicine. He enrolled in night classes at George Washington University School of Medicine until he could afford to attend classes full-time. He received his medical degree in 1924 and interned for a year at the University Hospital.

He began his private practice in 1925. He was Medical Director for Equitable from 1944 to 1961 and for GEICO from 1949 to 1963. He terminated his private practice in 1954.

He was elected to Active membership in the Medical Society of the District of Columbia in 1926 and became a Life member in 1965. He was a member of the American Medical Association, the Southern Medical Association, the American Congress of Physical Medicine, and the George Washington University Medical Alumni Association. For many years he was a member and Treasurer of the Eckington Presbyterian Church; more recently he attended the Georgetown Presbyterian Church where he was an elder.

Dr. McChesney made several sizable financial contributions to the D. C. Medical Society to be used at its discretion.

He leaves his wife, Mrs. Aerial McChesney, of the Home, and a daughter, Mrs. Donald I. Ker, of Nairobi, Kenya.

Panagiotos Stavros Constantinople, M.D., F.A.C.S. (1901-1967)

DR. P. S. CONSTANTINOPLE, well known otolaryngologist, died, February 18, 1967 at the Washington Hospital Center. He lived at 4840 Glenbrook Road, N.W.

A native of Arcadia, Greece, Dr. Constantinople came to the United States in 1905 with his parents, James C. and Georgia Chios Constantinople, and

lived in Alexandria, Va. He graduated from St. John's College Preparatory School in Washington and received his medical degree from Georgetown University in 1923. He interned at Gallinger (now D. C. General) Hospital during his senior year and served as resident physician at Georgetown Hospital from 1923 to 1924. He went abroad to study in Vienna under Dr. Heinrich Neumann, renowned specialist in diseases of the ear, nose and throat, and completed his postgraduate work at the University of Budapest.

He returned to the United States in 1926 to enter private practice in association with the late Dr. George B. Tribble. He was on the faculty of Georgetown University School of Medicine from 1926, serving as Associate Professor and Professor in both the Departments of Physiology and Otorhinolaryngology. At the time of his death he was Clinical Professor of Otorhinolaryngology.

He was on the staff of Children's, Georgetown, and Doctors Hospitals and on the staff of Garfield and Episcopal Hospitals before they merged to form the Washington Hospital Center. For 2 years after the merger he was Vice Chairman of the Department of Otolaryngology. He was consulting otolaryngologist to Columbia Hospital for Women and physician to the Opera Society of Washington.

In his spare time, Dr. Constantinople was an amateur violinist. He was a founder and supporter of the Doctors Symphony Orchestra of Washington.

He was elected an Active member of the Medical Society of the District of Columbia in 1928, and had served in all the offices of its Section on Otolaryngology. He was a member of the American Medical Association, a Fellow of the American College of Surgeons and the American Academy of Otolaryngology, a member and Past President of the International Medical Club of Washington, and a member of the Pan American Medical Society of D. C. and the Clinical Club of Washington. He was also a member of the Cosmos Club.

Surviving him are his wife, Mrs. Patricia Dowling Constantinople; 2 daughters, Mrs. Robert H. Van Meter, of the home address, and Dr. Anne P. Constantinople, Assistant Professor of Psychology at Bryn Mawr College; and 3 sons, James D., of New York City; George R., of Elstree, England; and Nicholas L., a student at Georgetown University.

Stanley James Klyza, A.B., B.S., M.D. (1911-1967)

DR. STANLEY J. KLYZA, head of obstetrics at the Washington Clinic, died suddenly, February 14, 1967, at Sibley Memorial Hospital. He lived at 4616 Asbury Place, N.W.

Dr. Klyza was born in Clarksburg, West Virginia, August 23, 1911. He received 2 undergraduate degrees from the University of West Virginia, and graduated in medicine from the University of Chicago in 1938. After interning at the Buffalo (N. Y.) General Hospital, he was resident physician for a year at the University of Chicago Lying-in Hospital and later at the Western Reserve University Hospital from 1953 to 1955.

He served in the South Pacific during World War II and was discharged, after 4½ year's service, as Lieutenant Commander in the Navy Medical Corps.

After the War he practiced in Clarksburg from 1947 to 1953. For the next 2 years he was resident physician in obstetrics and gynecology at Western Reserve University. He came to Washington in 1956 and had been on the staff of the Washington Clinic since that time. He was also Clinical Instructor in Obstetrics and Gynecology at Georgetown University.

He was a member of the American Medical Association, the Philadelphia Obstetrical Society, and an Active member of the Medical Society of the District of Columbia since 1957.

His wife, Mrs. Eleanor Klyza, survives him together with 2 sons, Stanley and Clark, all of the home address. His father, Andrew Klyza, of Berkeley Heights, N. J., also survives. He leaves 2 brothers, Aloysius Klyza, of Newark, Ohio, and Bernard Klyza, of Buffalo, N. Y., and 3 sisters, Mrs. Joseph Cywinski, of Trenton, N. J.; Mrs. Thomas Smith, of Camden, N. J.; and Mrs. John Lasko, of Berkeley Heights, N. J.

Charles Albert Finnigan, A.B., M.D. (1905-1967)

DR. CHARLES ALBERT FINNIGAN died, February 6, 1967, at the University of Virginia Hospital in Charlottesville, Va. He had been an Associate member of the D. C. Medical Society since 1940.

Dr. Finnigan was born in Boston, Mass., September 16, 1905, to Edward J. and Mary Reynolds Finnigan. He attended the public schools of Boston and graduated from Holy Cross College,

Worcester, Mass., in 1927 and from Georgetown University School of Medicine in 1937. After internship at the University Hospital, he entered private practice in Falls Church, Va., in 1940.

He was Instructor in Urology at Georgetown University from 1938 to 1944. During the war years, 1940 to 1944, he was examiner for Selective Service.

In 1949 he began a residency in psychiatry at the University of Virginia Hospital. He was appointed Assistant Professor of Neurology and Psychiatry at the University of Virginia School of Medicine in 1952 and served until 1957. He was also Director of the Psychiatric Outpatient Clinic at the Hospital until he entered the private practice of psychiatry in Charlottesville. He was consultant psychiatrist to the Virginia Rehabilitation Service and to the Veterans Administration Regional Office in Roanoke.

He was a member of the American Psychiatric Association, the Southern Medical Association, and the Medical Society of Virginia.

He leaves his wife, Mrs. Kathryn Dickie Finnigan, of the home address, 1872 Field Road, Charlottesville; a daughter, Mrs. Patricia F. Fitch, of Charlottesville; a son, Captain Charles A. Finnigan, Jr., of Blytheville Air Force Base, Ark.; and a sister, Mrs. Mary F. Derbyshire, of Albuquerque, N. Mex.

Amyloidosis—Barth

(Continued from page 231)

33. CARONE, F. A., AND EPSTEIN, F. H.: *Amer. J. Med.*, 1960, **29**, 539.
34. HURLEY, H. J., AND WEINBERG, R.: *Arch. Derm.* (Chicago), 1964, **89**, 678.
35. GROKOST, A. W., AND DEMARTINI, F. E.: *J.A.M.A.*, 1954, **155**, 635.
36. TRASOFF, A., SCHNEEBERG, N., AND SCARF, M.: *Arch. Intern. Med.* (Chicago), 1944, **74**, 4.
37. PARKINS, R. A., AND BYWATERS, E. G. L.: *Brit. Med. J.*, 1959, **1**, 536.
38. MARTIN, J. H., BROWN, A. L., JR., AND DAUGHERTY, G. W.: *Amer. J. Med. Sci.*, 1966, **251**, 129.
39. HARRISON, C. V., MILNE, M. D., AND STEINER, R. E.: *Quart. J. Med.*, 1956, **25**, 285.
40. BARCLAY, G. P. T., CAMERON, H. MACD., AND LOUGHRIDGE, L. W.: *Ibid.*, 1960, **29**, 137.
41. FRASER, J. G., AND KAYE, M.: *Canad. Med. Ass. J.*, 1961, **85**, 967.
42. CHAMBERS, R. A., MEDD, W. E., AND SPENCER, H.: *Quart. J. Med.*, 1958, **27**, 207.

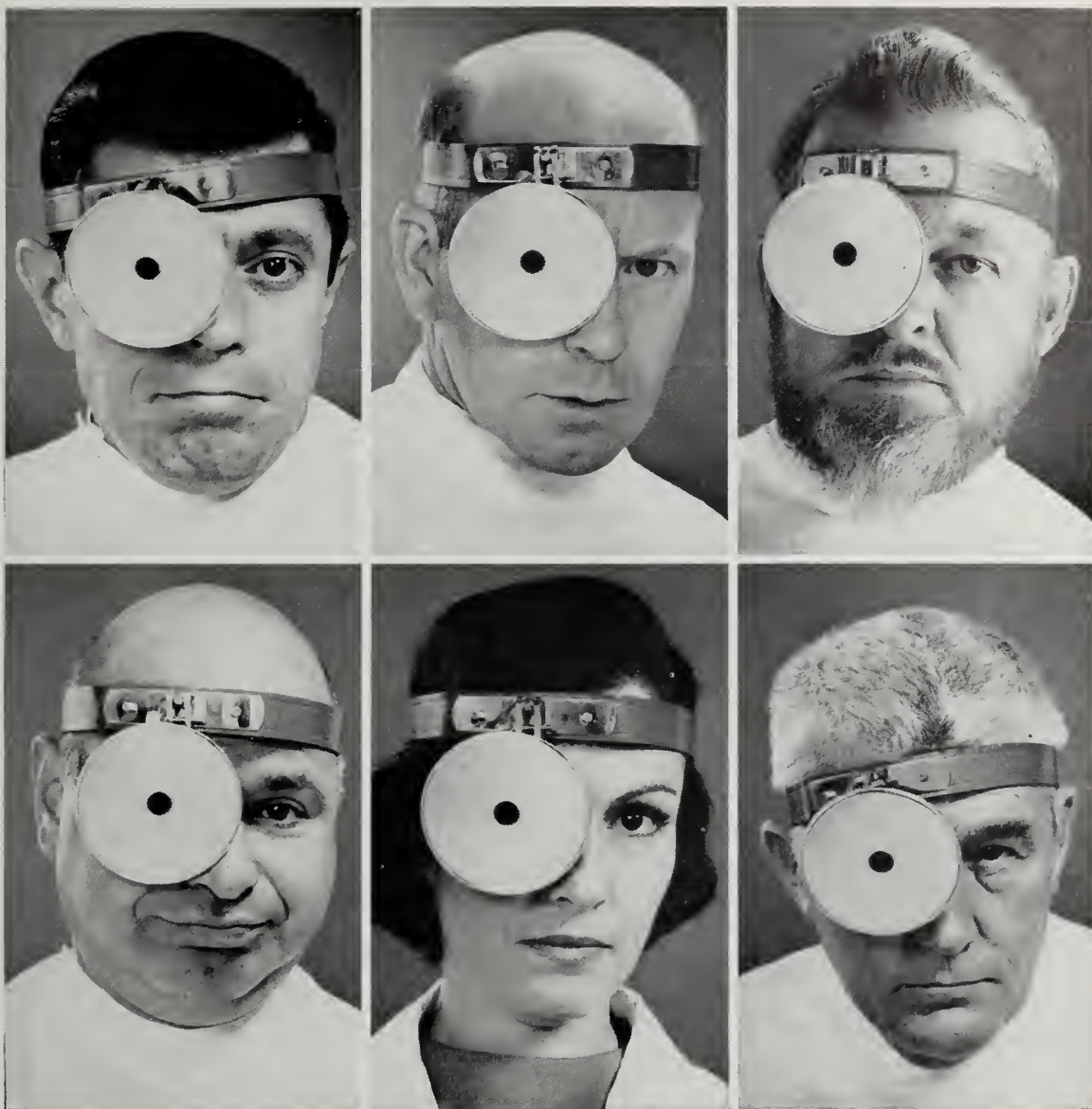
43. BLUM, A., AND SOHAR, E.: *Lancet*, 1962, **1**, 721.
44. KYLE, R. A., SPENCER, R. J., AND DAHLIN, D. C.: *Amer. J. Med. Sci.*, 1966, **251**, 501.
45. KYLE, R. A., PEASE, G. L., RICHMOND, H., AND SULLIVAN, L.: *Amer. J. Clin. Path.*, 1966, **45**, 252.
46. MISSMAHL, H. P.: *German Med. Monthly*, 1964, **9**, 101.
47. VASSAR, P. S., AND CULLING, C. F. A.: *Arch. Path.* (Chicago), 1959, **68**, 487.

Hodgkin's Disease—DeVita and Carbone

(Continued from page 234)

References

1. PETERS, M. V., AND MIDDLEMIS, K. C. H.: *Amer. J. Roentgen.*, 1958, **79**, 114.
2. EASSON, E. C., AND RUSSELL, M. H.: *Brit. Med. J.*, 1963, no. 5347, 1704.
3. PETERS, M. V.: *Amer. J. Roentgen.*, 1950, **63**, 299.
4. ROSENBERG, S. A., AND KAPLAN, H. S.: *Cancer Res.*, 1966, **26**, 1225.
5. KAPLAN, H. S.: *Radiology*, 1962, **78**, 553.
6. LEE, B. J.: *Cancer Res.*, 1966, **26**, 1084.
7. KARNOFSKY, D. A.: *Ibid.*, 1966, **26**, 1090.
8. KAPLAN, H. S.: *Ibid.*, 1966, **26**, 1221.
9. KAPLAN, H. S., AND ROSENBERG, S. A.: *Ibid.*, 1966, **26**, 1268.
10. ARMSTRONG, J. G., DYKE, R. W., FOUTS, J. J., AND GAHMER, J. W.: *Cancer Chemother. Rep.*, 1962, **18**, 49.
11. CARBONE, P. P., BONO, V. H., FREI, E., III, AND BRINDLEY, C. O.: *Blood*, 1962, **21**, 640.
12. BOHANNAN, R. A., MILLER, D. G., AND DIAMOND, H. D.: *Cancer Res.*, 1963, **23**, 613.
13. CARBONE, P. P., AND SPURR, C.: Comparative study of Vinca alkaloid and alkylating agents in patients with lymphoma. Eastern Solid Tumor and Acute Leukemia B groups, Drs. B. I. Shnider and J. F. Holland, Chairmen.
14. BRUNNER, K. W., AND YOUNG, C. W.: *Ann. Intern. Med.*, 1965, **63**, 69.
15. MATHÉ, G., AND OTHERS: *Lancet*, 1963, **2**, 1077.
16. DEVITA, V. T., SERPICK, A., AND CARBONE, P. P.: *Clin. Pharmacol. Ther.*, 1966, **7**, 542.
17. HALL, T. C.: *Cancer Res.*, 1966, **26**, 1297.
18. SCOTT, J. L.: *Cancer Chemother. Rep.*, 1963, **27**, 27.
19. FREIREICH, E. J., KARON, M., AND FREI, E., III: *Proc. Amer. Ass. Cancer Res.*, 1964, **5**, 20.
20. DEVITA, V. T., MOXLEY, J. H., III, BRACE, K., AND FREI, E., III: *Ibid.*, 1965, **6**, 15.
21. LACHER, M. J., AND DURANT, J. R.: *Ann. Intern. Med.*, 1965, **62**, 468.
22. FREI, E., III, DEVITA, V. T., MOXLEY, J. H., III, AND CARBONE, P. P.: *Cancer Res.*, 1966, **26**, 1284.
23. AISENBERG, A. C.: *J. Clin. Invest.*, 1962, **41**, 1964.
24. AISENBERG, A. C.: *New Eng. J. Med.*, 1964, **270**, 508, 565, 617.



"All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

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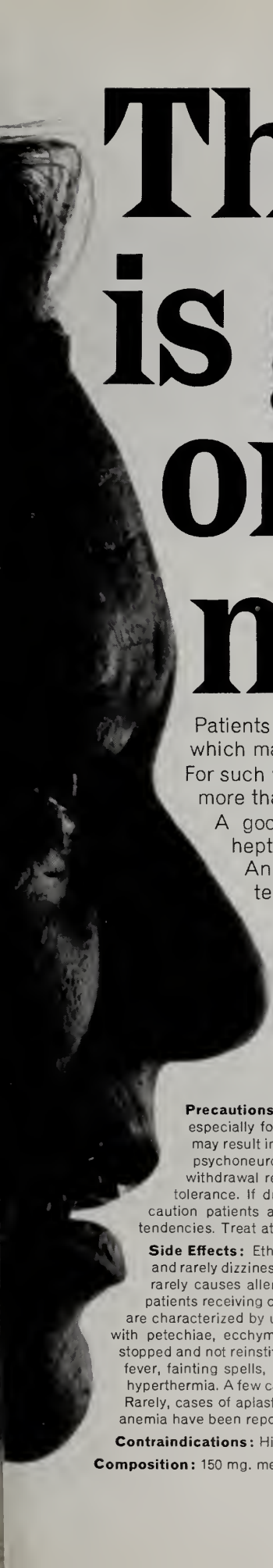
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Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

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BOOKS RECEIVED

Appraisal of Current Concepts in Anesthesiology. Volume 3. Edited and assembled by JOHN ADRIANI, M.D. Price, \$10.85. Pp. 522. St. Louis: Mosby, 1966.

The book contains 50 timely, concise essays which help the clinician view in an organized manner the ever-enlarging scope of modern anesthesiology. Many of the reviews correlate basic sciences with clinical problems. The contributors are staff members and trainees in the Anesthesiology Department of Charity Hospital of Louisiana. Dr. John Adriani is well known to anesthesiologists as both a prolific author and an experienced editor.

There is something for everyone. First, for the non-anesthesiologist it provides a large volume of readable material useful to needle, assist or astound his anesthesiologist colleague. More seriously, many of the subjects are of general medical interest, such as pulmonary function, pulmonary atelectasis, inhalation therapy, irreversible shock, abnormalities of banked blood, maternal and neonatal physiology, aspects of the pharmacology of specific drugs, acetylcholine, anesthetic agents, and tranquilizers. Adverse drug reactions and limits and liabilities in drug investigation are also discussed.

The section on composing examination questions is intended primarily for those involved in the training of house officers. However, physicians facing licensure and board examinations involving short answer and multiple choice questions will find the description of the design and evaluation of these questions of interest.

The final outline of what to teach anesthesiology residents and what they should know will be found useful to all involved in resident training.

In short, Dr. Adriani and his associates have compiled a most useful book which should have a place in every hospital and in many personal libraries.

ALISON B. WILHELM, M.D.

Condition Critical: Our Hospital Crisis. EDWIN P. HOYT. Price, \$5.95. Pp. 264. New York: Holt, Rinehart and Winston, 1966.

Mr. Hoyt wrote this book after sending questionnaires to over 300 hospitals, interviewing a number of administrators, physicians, nurses, and other members of hospital staffs, nursing home proprietors, and the directors of information of the Veterans Administration and the American Hospital Association, and after reviewing recent books, magazines, technical journals, and newspapers related to the subject.

In 15 chapters he touches on a multitude of topics, including voluntary hospitals, government hospitals, proprietary hospitals, population changes, political changes and trends, overcharging, unnecessary operations, hospital capacity, conflicts in administration, shortage of personnel, unionization, depersonalization, ambulance service, emergency treatment, special equipment, food, discrimination, health insurance, Medi-

care, malpractice, costs, methods of financing, accreditation, and needs for standards and regulations.

The title and jacket give a dark impression, and the author dwells primarily on the problems, but he also points out in the text that some of the hospitals are very good indeed. Although one might question some of the analyses and conclusions, the author is not alone in feeling that many improvements could be made to give the patient better treatment than he sometimes now receives. In this respect, anyone interested in hospital treatment should also read an article in the December 2, 1966 issue of *Life Magazine* entitled, "Is the U. S. Hospital Fit to Be Sick In?" This article describes the plans of Drs. John F. Gillespie, Charles A. Hufnagel, and Charles F. Geschickter to remodel Washington's Georgetown University Hospital and design a new 9-story \$15,000,000 wing, with many innovations, where acutely ill patients would be under constant observation and given instant concentrated care when needed. It would also serve as a civilian disaster center should the occasion arise.

This book does not offer any specific solutions to the problems described but it is thought-provoking. It should be of general interest to all physicians and of particular interest to physicians, administrators, and members of political bodies or civic groups having a voice in planning, financing, or establishing policy in our hospitals.

ARTHUR E. CLIFF, M.D.

The Ocular Fundus in Neurologic Disease. A Diagnostic Manual and Stereo Atlas. WILLIAM FLETCHER HOYT, M.D., AND DIANE BEESTON, A.B. Price, \$35.00. Pp. 128, with 137 photographic illustrations, 98 stereoscopic views in full color on 14 View-Master® reels, and a View-Master® compact viewer. St. Louis: Mosby, 1966.

It is commonly agreed that neuro-ophthalmology is one of the most important and least understood aspects of clinical neurology. There are precious few texts devoted to this essential topic, and by now such works as those by Walsh, Cogan and Lyle are accepted as standard classics. Anything which adds to the understanding of this complex subject—particularly its practical application—is most welcome indeed.

Hoyt and Beeston's book, limiting itself to the fundus and utilizing a new technique, attempts to do just this. Though stereoscopic demonstrations have been available for some time in neuroanatomy, this is the first time, I believe, it has been organized and presented in this particular area. The authors deserve a great deal of credit for having taken the effort to collect a set of color slides of the fundus of various neurological disorders, which in itself is extraordinary, but to have them in a stereoscopic view is truly remarkable.

The book is presented in five sections: I. Papil-

(Continued on page 38)

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Book Reviews

(Continued from page 36)

ledema—a sign of increased intracranial pressure, II. Elevated disc anomalies often confused with papilledema, III. Disc swelling from local and systemic disease—differential diagnosis, IV. Pallor of the optic disc—differential diagnosis, and V. Combined disorders of retina and brain—retinocerebral syndromes. On the left hand pages are the main text and descriptive illustrations while on the right hand pages are the black and white copies of colored stereoscopic pictures with very brief (and often unnecessary) case history data.

For the most part, the reproductions are excellent in quality. Occasionally, and mainly by contrast to the majority, a few are poor and disappointing. Providing the ingenious viewing mechanism is a convenient and welcome feature. Unfortunately, there is no index to the slides nor does there seem to be a logical sequence of pattern (e.g., the "normal" retina is on reel VIII, no. 5) except for the section on papilledema, which is particularly outstanding. The descriptions of the slides are buried in the text, and because of the very poor indexing and reference, much inconvenience, frustration, and time wastage are experienced. This constitutes one of the major and quite serious drawbacks of the work. Another negative feature is the duplication of photographs—black and white in the text and color on the slides, which of course adds to the cost. Typographical factors such as excessive "white space" tend to raise the cost—again, unnecessarily. (In my copy 1 slide reel was repeated and 1 omitted, causing a lack when information was needed. But then, "typographical" errors can happen in any book.) The quality of the text material is variable, ranging from excellent in the section on papilledema to poor in the lipoidoses.

In general, the greatest contribution of Hoyt and Beeston's work is the stereoscopic pictures, and viewing them is a very worthwhile experience. I believe every neurological and ophthalmological teaching organization and/or medical library should have a reference copy available. The cost may well serve as an impediment to wide distribution and individual ownership.

JULIUS HOFFMAN, M.D.

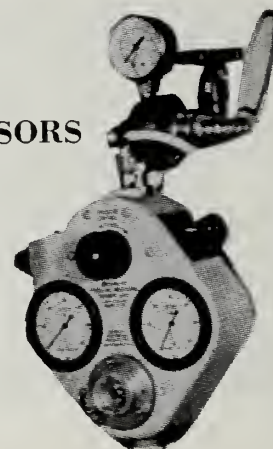
Proceedings of the Western Hemisphere Nutrition Congress, November 8-11, 1965, Chicago, Illinois. Organized by the Council on Foods and Nutrition, American Medical Association. Price, \$5.00. Pp. 255, illustrated. Chicago: American Medical Association, 1966.

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Our surfeited population suffers mainly from the malnutrition of excess. Obesity, which predisposes consequentially to cardiovascular-renal disease and diabetes, is increasingly prevalent. Automation provides more than an ample food supply, facilitating dietary excess. The traditional prestige symbol of an affluent middle class, the 'ample diet,' includes large proportions of animal fats.

Also present, in the midst of plenty, are extremes of undernutrition, including florid vitamin deficiencies. In the United States there were 713 cases of scurvy recorded (1965). In Canada scurvy is seen with such frequency in some areas as to require addition of vitamin C to evaporated milk.

The "Proceedings—Western Hemisphere Nutrition Congress—1965," I dare say, is the single most valuable publication of the American Medical Association. However, it likely will not be widely read. These Proceedings are complete, comprehensive, and authoritative, and should certainly be required study for all students of medicine.

BERNARD NOTES, M.D.

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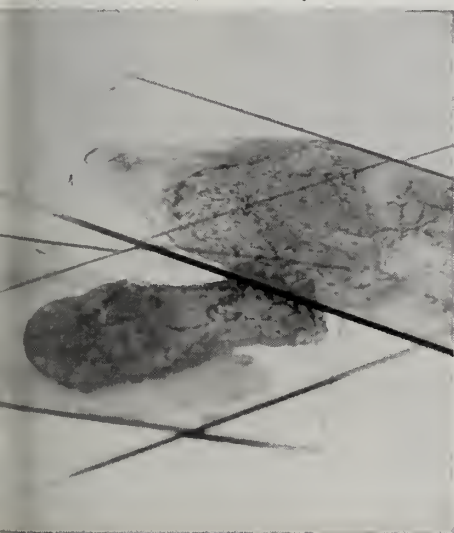
2. nonpregnant women with a history of recent
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3. elderly or debilitated patients



4. patients with a past history of moniliasis



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PRESCRIBING INFORMATION. For complete information consult Official Package Circular. **Indications:** Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. **Contraindications:** The drug is contraindicated in patients hypersensitive to its components. **Warnings:** Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood.) **Precautions:** Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. **Adverse Reactions:** Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. **Usual Adult Dosage:** 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. **Supplied:** Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

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April 27-29: American Association for the History of Medicine. New Haven, Conn. Address: Dr. John B. Blake, Secretary, National Library of Medicine, Bethesda, Md. 20014.

April 30: American Federation for Clinical Research. Chalfonte-Haddon Hall, Atlantic City, N. J. Address: Mr. James E. Bryan, Executive Secretary, 2000 P Street, N.W., Washington, D. C. 20036.

April 30-May 3: American Society for Clinical Investigation. Chalfonte-Haddon Hall, Atlantic City, N. J. Address: Dr. Grant W. Liddle, Secretary-Treasurer, Vanderbilt University School of Medicine, Nashville, Tenn. 37203.

April 30-May 4: International College of Surgeons (North American Federation). Americana Hotel, Bal Harbour, Fla. Address: Mr. Stanley E. Henwood, Executive Director, 1516 Lake Shore Drive, Chicago, Ill. 60610.

May 7-11: Third Hemispheric Conference of Pan American Cancer Cytology Society. Waldorf Astoria Hotel, New York. Address: Dr. W. L. Wheeler, Jr., Chairman, Committee on Local Arrangements, 115 East 69th Street, New York, N. Y. 10021.

May 7-12: American Psychiatric Association. Cobo Hall, Detroit. Address: Dr. Robert S. Garber, Secretary, The Carrier Clinic, Belle Mead, N. J. 08502.

May 8-12: American College of Physicians: Course No. 16, Clinical Auscultation of the Heart. Georgetown University School of Medicine and Georgetown University Hospital, Washington; W. Proctor Harvey, M.D., Director. Address: Dr. Edward C. Rosenow, Jr., Executive Director, 4200 Pine Street, Philadelphia, Pa. 19104.

June 18-22: American Medical Association, Annual Convention. Atlantic City, N. J. Address: Dr. F. J. L. Blasingame, Executive Vice President, 535 North Dearborn Street, Chicago, Ill. 60610.

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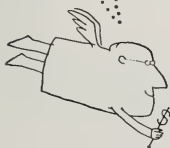
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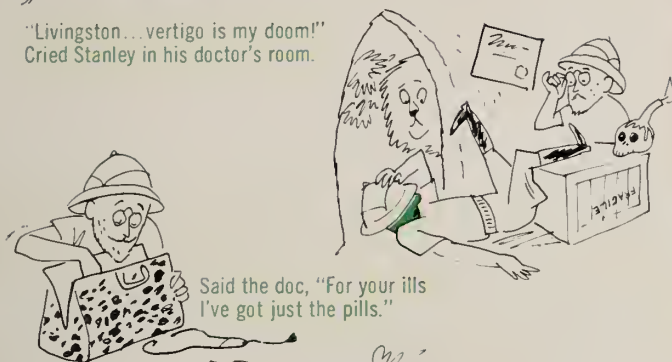
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gaging in activities where alertness is mandatory. **Use in women of childbearing age:** A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. Rx only.

References: 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

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Niacinamide, U.S.P.	50 mg.
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Rutin	5 mg.
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Methyltestosterone, N.F.	1.0 mg.
Ethinyl Estradiol, U.S.P.	0.006 mg.
(5) Amino Acids	
L-lysine (monohydrochloride)	50 mg.
L-Glutamic acid	30 mg.

*Enzymatically active defatted material obtained from 250 mg. of whole fresh pancreas.

For older adults who require it, daily supplementation with Neobon can help overcome decreases in endogenous gonadal hormone production, as well as deficiencies of iron, vitamins and other nutritional factors. In a single convenient capsule, Neobon provides vitamins, minerals, gonadal hormones, hematopoietic factors, digestive enzymes, and amino acids—all selected for adjunctive therapeutic value in the geriatric syndrome. For example, one of the gonadal hormones in Neobon is ethinyl estradiol. It is more slowly metabolized in the body than natural estrogens or their esters.

Precautions: Contraindicated in patients in whom estrogen or androgen therapy should not be used, as in carcinoma of the breast or prostate.

Dosage: One capsule, t.i.d. with meals, or as directed by physician.

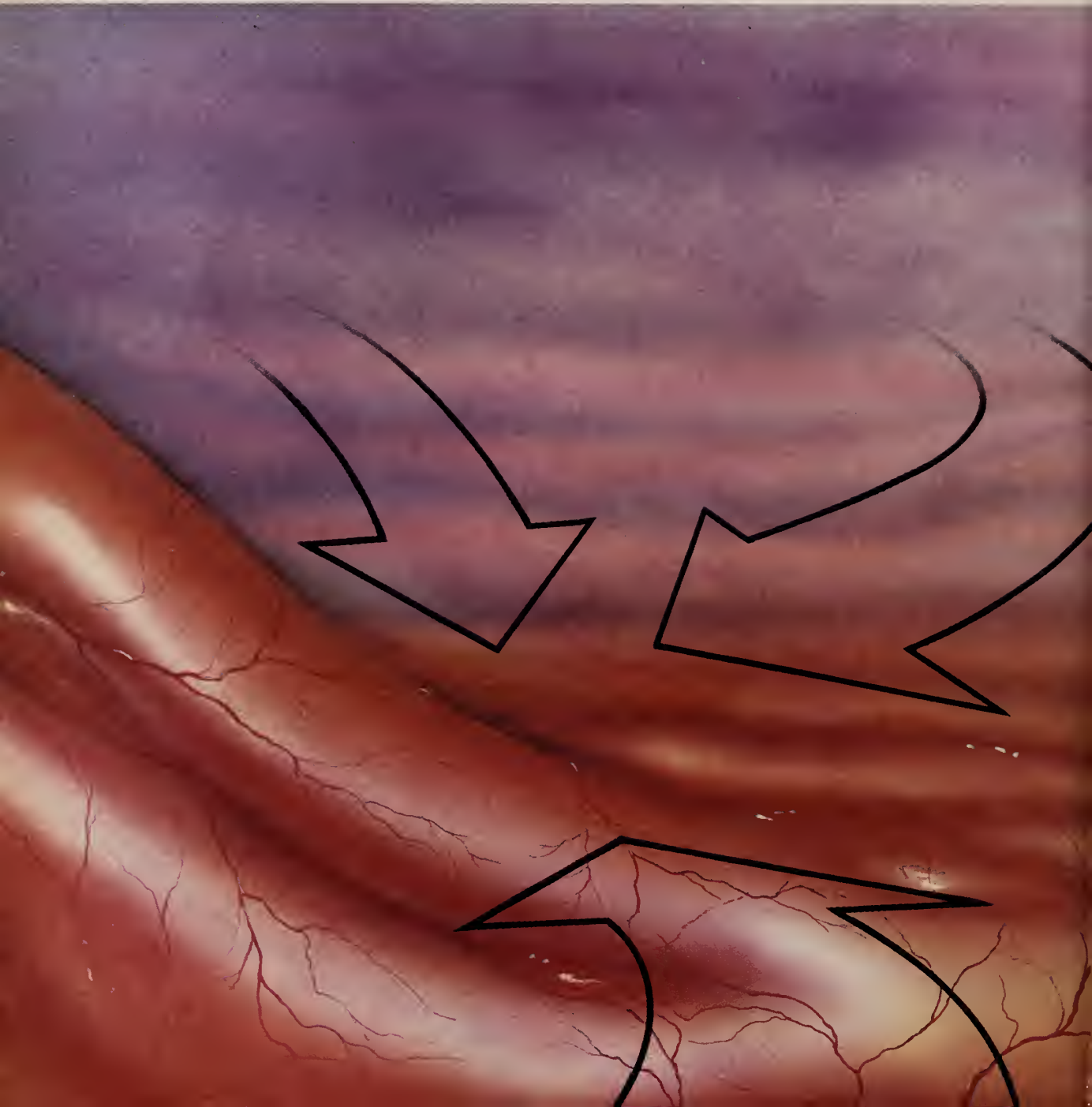
Supplied: Bottles of 60 capsules. Rx only.



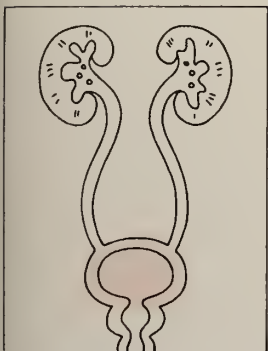
J.B. ROERIG DIVISION
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The battle with bacteria: cystitis

Artist's conception of cystoscopic view of bladder showing congested blood vessels and edema around ureteral orifice.



consider Gantanol (sulfamethoxazole)



For vigorous treatment of G.U. infections before the invaders become entrenched...

Gantanol (sulfamethoxazole) offers a comprehensive spectrum of antibacterial effectiveness against most common gram-negative as well as gram-positive invaders. In addition, it provides

satisfactory concentrations in the blood and urine with ready diffusion into interstitial fluids for antibacterial activity at foci of bacterial invasion.

High antibacterial activity against *E. coli* and other common urinary pathogens... A review of 153 cases of acute G.U. infections reported in the literature shows that

90% responded to Gantanol (sulfamethoxazole), with over one-half of these patients showing excellent relief of symptoms.^{1,2} Even in stubborn chronic G.U. infections, almost 60% of 450 patients improved on Gantanol (sulfamethoxazole), including many who had not responded to other antibacterials.¹⁻⁶

Generally uncomplicated therapy enhances the favorable clinical results... Of the total 686 patients from the studies cited,¹⁻⁶ only three discontinued therapy because of side effects. Most of the side effects reported (approximately 3%) were mild and included nausea and/or vomiting, skin rash, dizziness, headache, gastritis, generalized uneasiness and itching.¹⁻⁶

1. Peters, J. H.: *J. Urol.*, 87:747, 1962. 2. Draper, J. W., et al.: *South. M. J.*, 57:920, 1964. 3. Stewart, B. L.: *J. Urol.*, 87:491, 1962. 4. Hagstrom, R. S.: *Rocky Mountain M. J.*, 59:(2), 37, 1962. 5. Arnold, J. H.: *Clin. Med.*, 71:552, 1964. 6. Nelson, C. G.: *Colorado GP*, 3:(3), 2, 1961.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-John-

son syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

How Supplied: Tablets, 0.5 Gm, bottles of 50.

Roche Laboratories

Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



when there are bacterial invaders in the bladder, prostate or kidneys

Gantanol[®]
(sulfamethoxazole)

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Many overweight patients can benefit from the appetite control provided by the sustained anorexigenic-tranquilizing action of BAMADEX SEQUELS: anorexigenic action of amphetamine; tranquilizing action of meprobamate; prolonged action through sustained release of active ingredients.

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DEXTRO-AMPHETAMINE SULFATE (15 mg.) SUSTAINED RELEASE CAPSULES
WITH MEPROBAMATE (300 mg.)

**to help establish
a new dietary pattern**

Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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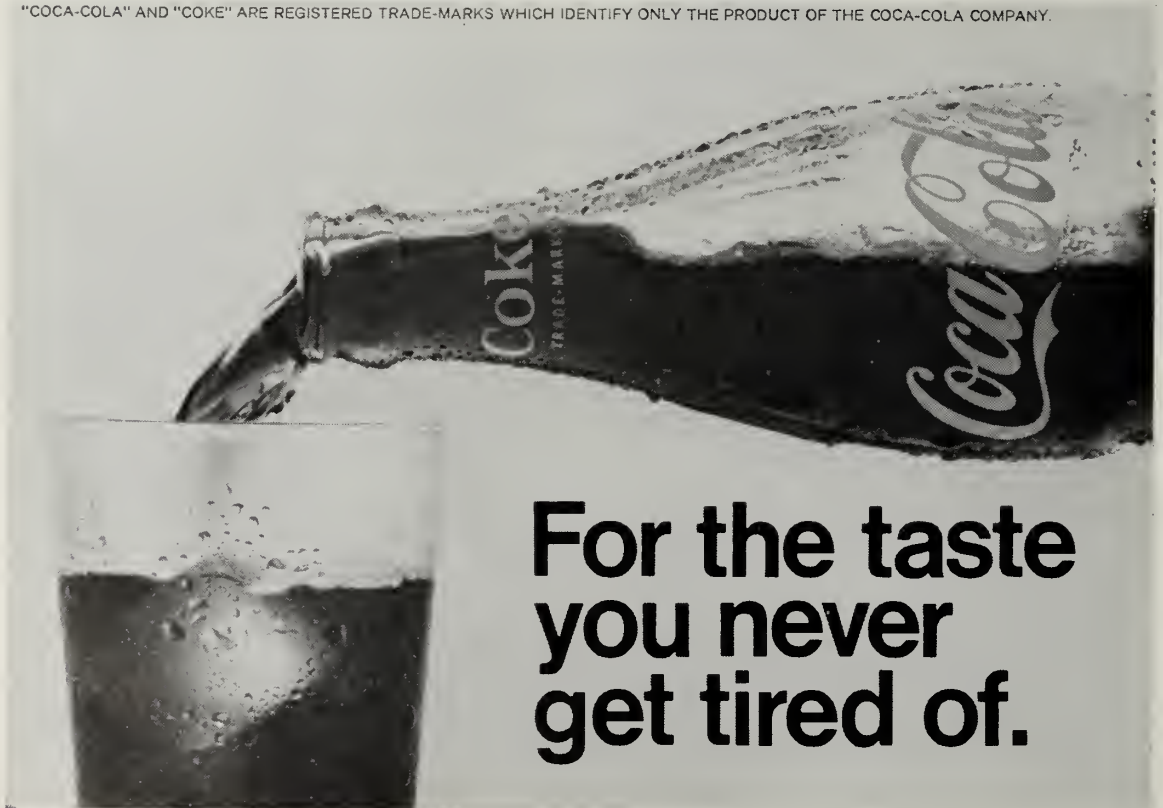
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AIRWAYS—**

**AND
KEEPS THEM
OPEN**

NUMA[®] DURA-TABS[®]

for prolonged aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE[®] DURA-TABS[®]
(Quinidine Gluconate 5 gr.)



You can't set her free. But you can help her feel less anxious.

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beset by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough.

SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.

May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

Availability: Capsules of 10, 15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

Serax[®]
(oxazepam)

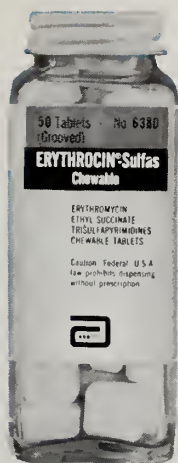


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ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials^{1,2}, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated^{1,2}—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%



Brief
Summary
on next
page

ERYTHROCIN®-SULFAS

Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



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for

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- ASTHMA
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- BRONCHIECTASIS

*The
fast-disintegrating
uncoated tablet
gives relief in
15 minutes*

Each tablet contains:

Potassium Iodide 195 mg.
Aminophylline 130 mg.
Phenobarbital, Caution: May be habit forming... 21 mg.
Ephedrine HCl 16 mg.

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Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

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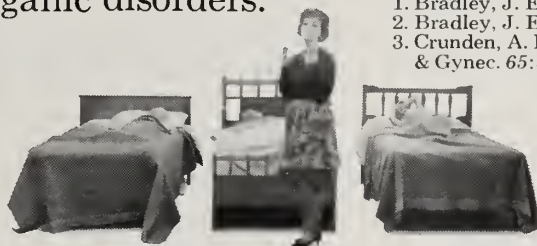
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1. Bradley, J. E., *et al.*: J. Pediat. 38:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. 20:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d.
(initial adult dose)

Indications: Urinary tract infections caused by gram-negative and some gram-positive organisms.

Side effects: Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

Precautions: As with all new drugs, blood and liver function tests are advisable during prolonged treatment. Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function. Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

Dosage: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately 25 mg. per pound of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

How supplied: Buff-colored, scored Caplets® of 500 mg. for adults, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. 250 mg. for children, available in bottles of 56 and 1000.

References: (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

NegGram®
Brand of
nalidixic acid
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eradicates most urinary
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- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported in more than 2 out of 3 patients with either chronic or acute gram-negative infections.¹

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas²... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

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FOR RENT: Northwest midtown medical offices: (1) 3701 Connecticut Avenue, 850 sq. ft. with reception room, office, nurse's station, 3 examining rooms, laboratory, 2 entrances; (2) 3801 Connecticut, 1240 sq. ft., can be designed to specifications. Both air-conditioned, reserved parking, all utilities included. Reasonable rental. Telephone Mr. ASHTON, H. G. Smithy Co., Sterling 3-3300.

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FOR RENT: Prime location for doctors' and dentist's offices in new medical building in Silver Spring-Wheaton (Md.) at 344 University Blvd. West. Ample free parking. Telephone FRANK L. HEWITT III, Property Manager, Juniper 5-8900, or see for yourself the many advantages in this rapidly growing community.

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TO SUBLEASE: Physician's office now available, in modern medical building, 17th and Eye Streets, N.W. Furnishings and equipment also available. All terms open; generous allowances to be extended. Telephone 298-7181.

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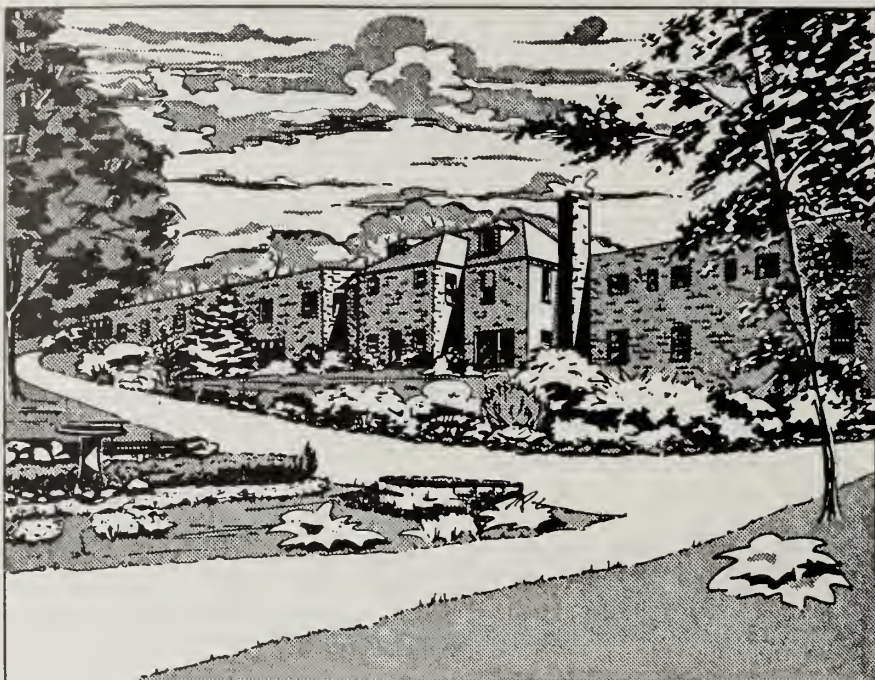
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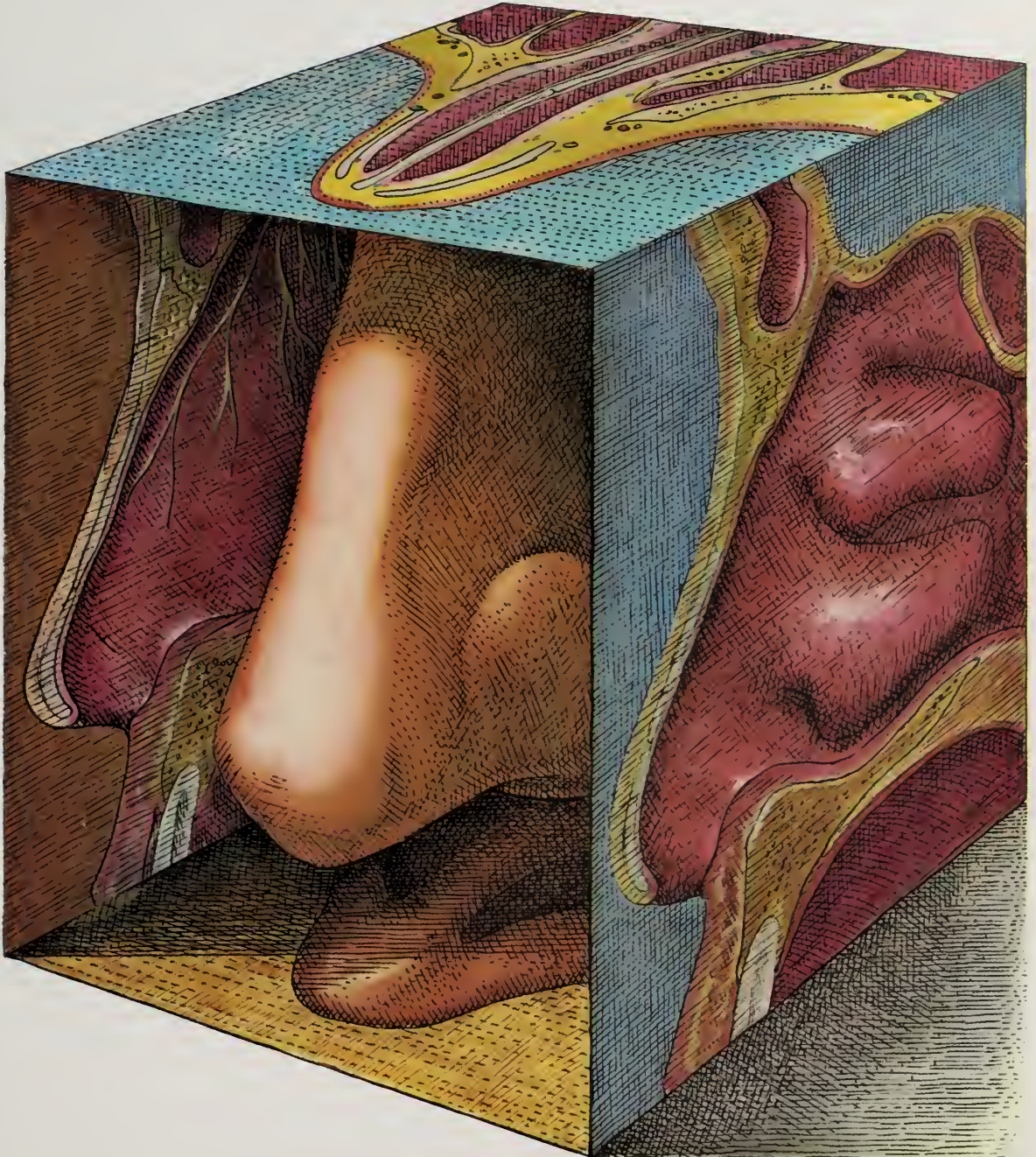
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this issue: the ubiquitous world of  summer allergies



the ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.¹ The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

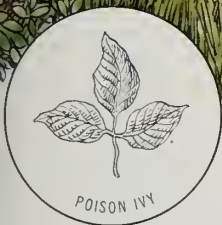
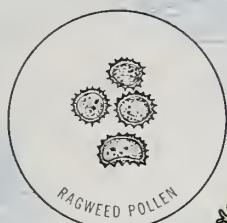
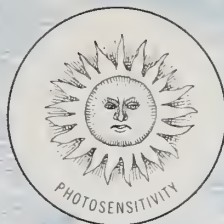
Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

Early in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.² The entire tree season starts about April 1 and ends about Memorial Day, al-

though all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.³ Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

Ragweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons



in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.⁴

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

While molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is *Alternaria*—the kingpin of the molds—that meets a sudden demise with the first frost. *Alternaria*-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, *Alternaria* counts are at their highest, perhaps associated with the burning of leaves. Other molds such as *Hormodendrum* and

Helminthosporium are associated with the warmer weather, as opposed to *Penicillium* and *Aspergillus* which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.⁵ Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.⁶ Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

(Concluded on following page)

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nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

another fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.⁷ Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.⁸ It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

References

1. Unger, L.: Bronchial asthma. Charles C. Thomas Co. p. 47, 1946.
2. Samter, M.: Immunological diseases. Little, Brown and Co. p. 513, 1965.
3. Wodehouse, R. P.: Antigenic analysis by gel diffusions: 2. Grass pollen. *Int. Arch. Allerg.* 6:65, 1955.
4. Cohart, E. M., and Kandle, R. P.: The Effects of a ragweed control program on ragweed pollen counts, *J. Allergy* 30:287, 1959.
5. Woddell, L. S.: Egyptian civilization: Its origin and real chronology and Sumerian origin of Egyptian hieroglyphics. London: Luzak & Co. 1930.
6. Parlato, S. J.: The sandfly (Caddis fly) as an exciting cause of allergic coryza and asthma: II. Its relative frequency. *J. Allergy* 1:307, 1930.
7. Ozere, R. L.: Demethylchlortetracycline photosensitivity. *Canad. M. A. J.* 85:1199, 1961.
8. Horton, B. T., Braun, G. E., and Roth, G. M.: Hypersensitiveness to colds, *JAMA* 107:1263, 1936.

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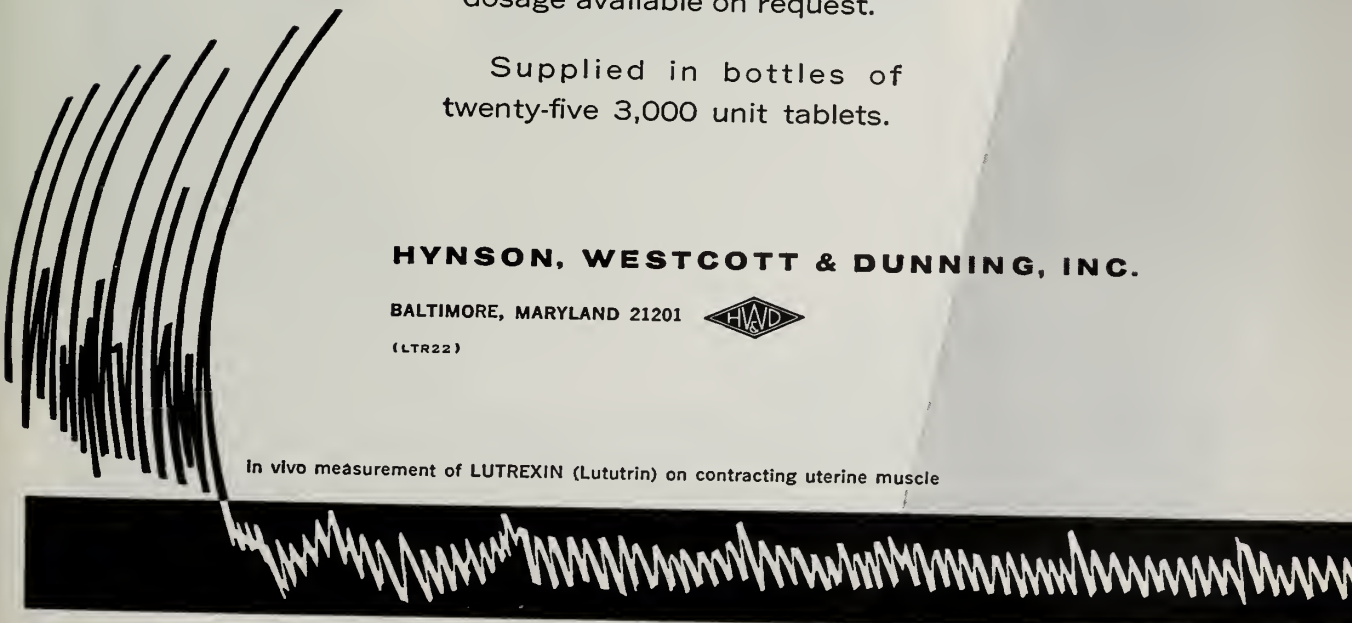
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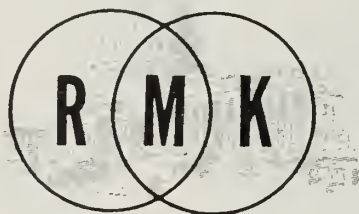
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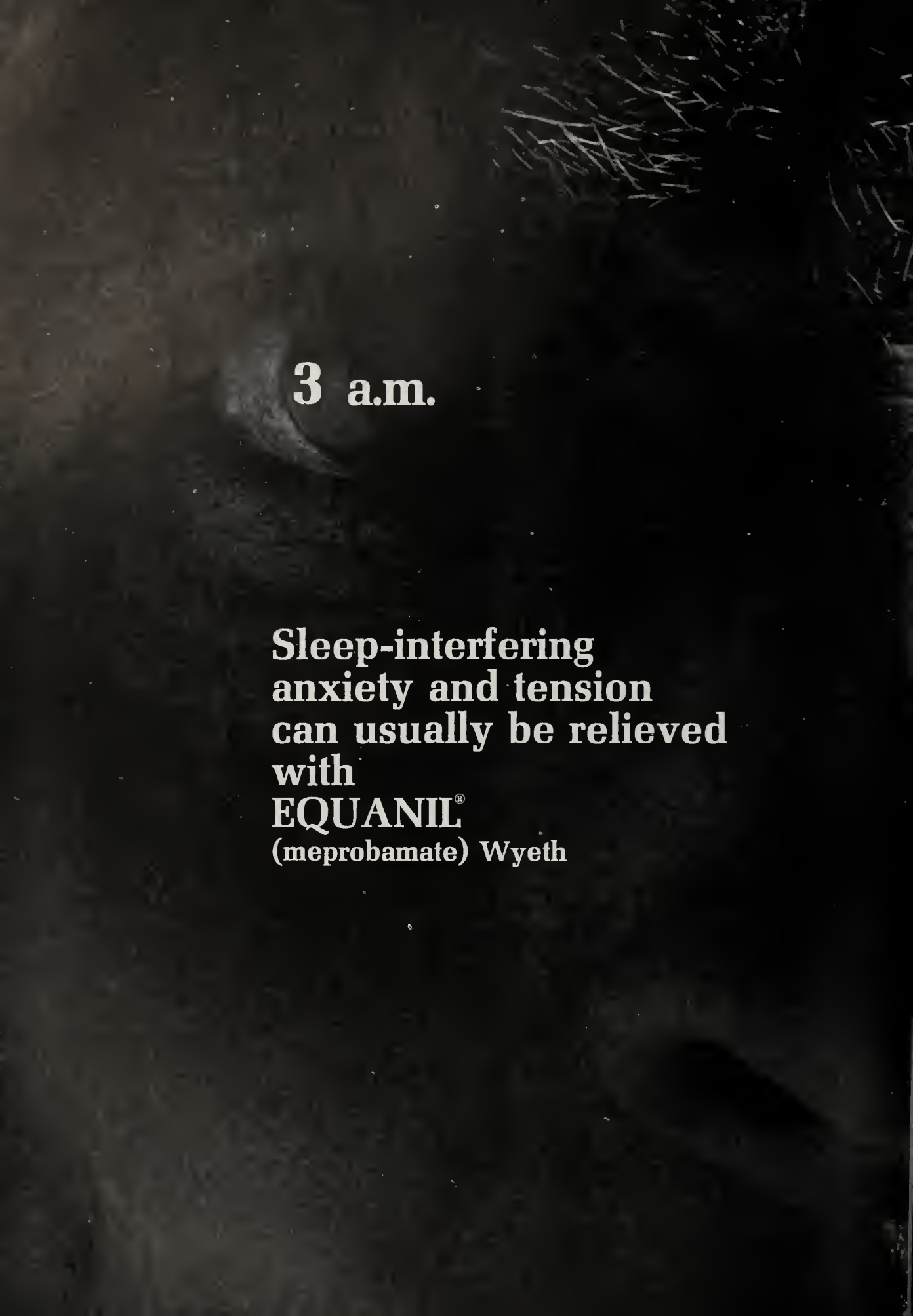
Consistently effective, QUINAMM provided complete relief in 94% of 200 patients studied, many of whom were severe cases refractory to other medication.³ Your prescription for one tablet at bedtime often controls painful night cramps with the initial dose . . . helps restore restful sleep.

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QUINAMM Prescribing Information: **Composition:** Each white, beveled, compressed tablet contains: Quinine Sulfate 4 grains (250 mg.) and Aminophylline 3 grains (200 mg.). **Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Contraindication:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets. **Cautions:** Federal law prohibits dispensing without prescription.

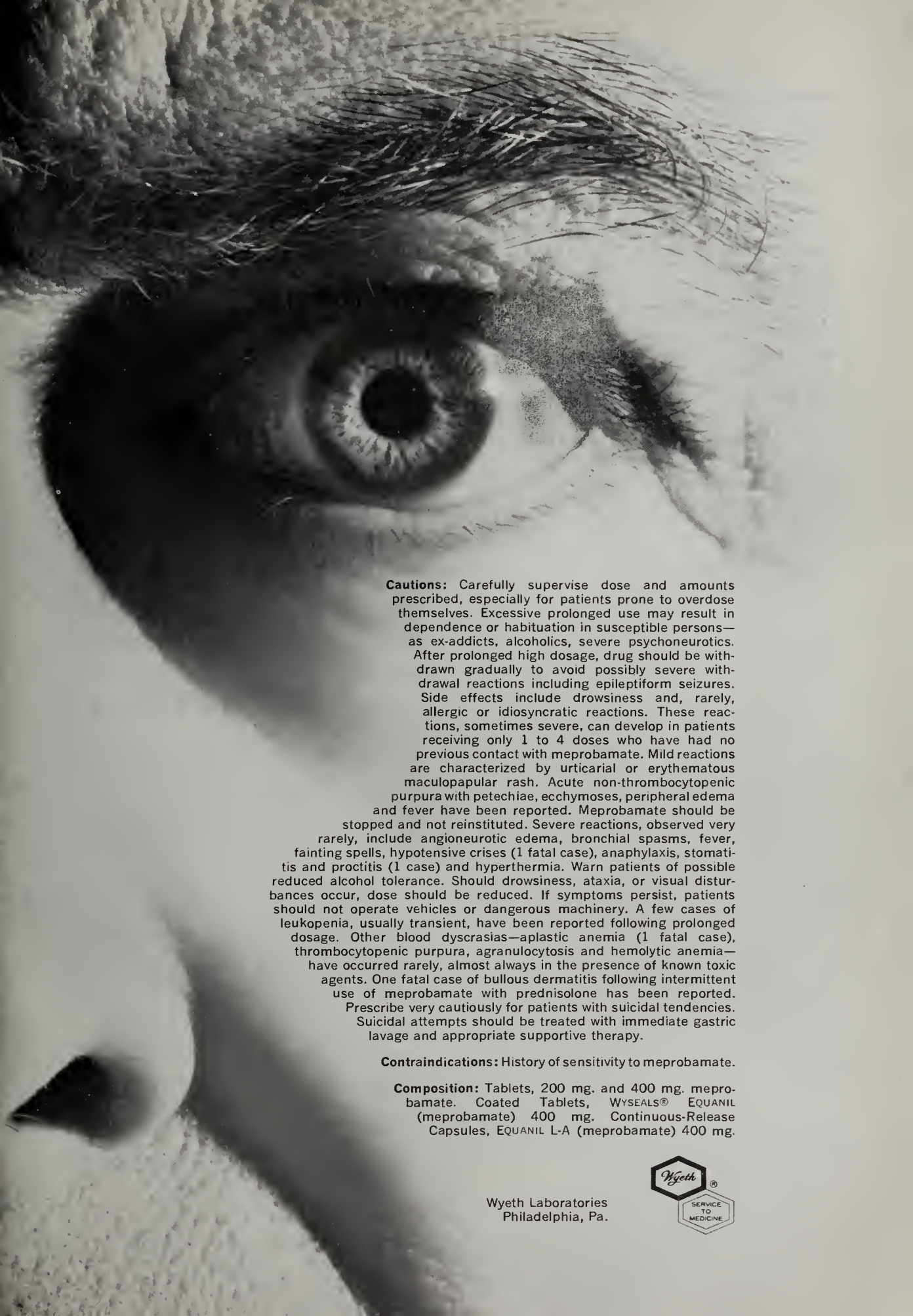
References: 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuk, E., et al.: Angiology, 12:102, 1961. 3. Rawls, W., et al.: Med. Times, 87:818, 1959.

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(meprobamate) Wyeth**



Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics.

After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures.

Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

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Philadelphia, Pa.



Over the Desk

Predictions on Medical Education in 1975:

An educator from Georgetown University predicts that, by 1975, $2\frac{1}{2}$ times as many women as today will be enrolled in medical schools in the United States because of a flexible curriculum that will permit "time out of school when necessary for important family matters."

"Presently, there are 9,000 students in their first year of medical school in this country," said Dean John C. Rose of the School of Medicine. "Of that number, 8 per cent, or about 720, are women. By 1975, an estimated 11,800 students will enter medical schools; 15 per cent—or 1,770—will be women."

Dr. Rose addressed a symposium on "Preparation for the Practice of Medicine in the Next Decade," which was held in conjunction with the national meeting of the American Association for the Advancement of Science in Washington, D. C.

According to Dr. Rose, there will be 110 medical schools in this country by 1975, or 20 more than in operation today. He attributed this growth to "Federal legislative programs which are assisting in building new medical schools and expanding all others."

He also prophesied that, by 1975:

- Many medical schools will accept students after 2 years of college, "depending upon the quality of the high school and college programs and individual talent."

- Some students will complete their college and medical school studies in 6 years, instead of the present 7 or 8.

- Medical students will work with patients, under supervision of faculty members, in their first year of medical school. At present their intensive clinical training starts in their third year.

- Internship programs for physicians will be abolished at hospitals in this country.

Commenting on this latter point, Dr. Rose said this change, recommended by the Millis Commission Report in 1966, would be a difficult one to implement. With the abolishment of internships, medical students, upon graduation, would enter directly into residency or specialty programs, other graduate studies, or foreign assignments.—Georgetown University News Service, December 28, 1966.

(Continued on page 11)



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*Blood; ketones; glucose; protein, and pH.

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Over the Desk

(Continued from page 10)

Diagnosis by Computer: At the AMA Clinical Convention in Las Vegas, a bank of 3 electronic terminals was installed at the Pfizer Laboratories exhibit, connected directly to computer complexes in Los Angeles and Las Vegas. Hundreds of symptoms had been programmed into the computers, together with a differential diagnosis based upon combinations of these symptoms.

The material programmed into the computer was concerned with diseases of the urinary tract.

During the meeting, physicians participating in the demonstration were provided with cards listing more than 300 symptoms associated with over 50 varieties of urinary tract disease. These physicians marked off combinations of symptoms listed on the cards. Depending on the symptoms marked by the physician, the computers almost instantaneously responded with a diagnosis of disease, or requested additional information. The physician received the answer in the form of a computer printout.

The process of diagnosis by computer is similar to the process which takes place in the physician’s mind as he marshalls the evidence for a final diagnosis. The difference is that the computer is able to store a larger body of knowledge to make available to the physician and to respond almost instantaneously.

No computer will ever replace or even equal the unique capabilities of the human mind. What the computer does offer is the ability to store an enormous library of information, and the capacity for total recall at a speed that far surpasses that of the human brain. Thus through computers, the physician may have at his disposal immediate access to information that otherwise might take much time to research.—Adapted from Pfizer News, November 28, 1966.



Four-handed Dentistry: Four-handed dentistry, perhaps the most profound innovation in the practice of modern dentistry, was the subject of a lecture program presented by 3 members of the University of Alabama School of Dentistry at the recent meeting of the American Dental Association in Dallas.

The practice of 4-handed dentistry involves 3 major concepts: the position of the patient, which is horizontal, in a lounge-type chair; the seating of

(Continued on page 14)



In the treatment of the anxious menopausal woman:
when the need arises for a tranquilizer...
consider

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Actions: Hydroxyzine is a rapid-acting, true ataraxic, unrelated chemically to phenothiazines, reserpine or meprobamate. It induces a calming effect in anxious, tense, psychoneurotic adults and also in anxious, hyperkinetic children without impairing mental alertness. It is not a cortical depressant, but its action may be due to a suppression of activity in certain key subcortical areas. Antihistaminic and antiemetic effects have been demonstrated clinically; skeletal and smooth muscle relaxation has been observed in experimental animals. It is rapidly absorbed in the gastrointestinal tract.

Hydroxyzine has demonstrated its clinical effectiveness in the chemotherapeutic aspect of the total management of neuroses and emotional disturbances manifested by anxiety, tension, agitation, apprehension or confusion.

Indications: Total management in conditions of emotional stress requires in most instances a combined approach of psychotherapy and chemotherapy. Hydroxyzine has been found to be particularly useful for this latter phase of therapy in its ability to render the disturbed patient more approachable and amenable to psychotherapy in long-term treatment of the psychoneurotic and the psychotic, although it should not be used as the sole treatment of psychosis or of clearly demonstrated cases of depression.

Hydroxyzine is also useful in alleviating the manifestations of anxiety and tension in situations in which the causative stress is temporary, as in the preparation for dental and other minor surgical procedures, and in acute emotional problems. It has also been recommended for the management of anxiety associated with organic disturbances such as certain types of heart disease, digestive disorders, dermatoses, senility, the menopausal syndrome, and behavior problems in brain-damaged or epileptic children.

In addition, it has been recommended as adjunctive therapy in alcoholism, and allergic conditions with strong emotional overlay, as in asthma, chronic urticaria, and pruritus.

Hydroxyzine has also demonstrated effectiveness in controlling nausea and vomiting associated with gastritis, gastroenteritis and enteritis; upper respiratory infections, influenza and pneumonia; postoperative conditions; miscellaneous diseases such as Ménière's syndrome, migraine, and vestibulitis.

Hydroxyzine for intramuscular use is especially useful in treating the acutely disturbed or hysterical patient and the acute or chronic alcoholic patient with anxiety withdrawal symptoms or delirium tremens. Used adjunctively pre- and postoperatively and pre- and postpartum, hydroxyzine allays anxiety, permits substantial reduction in narcotic dosage and controls emesis.

Clinical use of hydroxyzine as an adjunct to the management of labor has been extensively reported in the literature without evidence of harm to the mother or fetus.

Contraindications: Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate to establish safety in early pregnancy. Until such data are available, hydroxyzine is contraindicated in early pregnancy.

Hydroxyzine is contraindicated in any individual who has shown a previous hypersensitivity to it. The parenteral solution is intended only for intramuscular or intravenous administration and should not, under any circumstances, be injected subcutaneously or intra-arterially.

Precautions: Drowsiness may occur with oral or parenteral use of this drug, and patients should therefore be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Since hydroxyzine may potentiate the action of central nervous system depressants, conjunctive use with these drugs requires that their dosage be decreased. Hydroxyzine reduces the requirements by as much as 50% for narcotics such as meperidine, so their use in preanesthetic adjunctive therapy should be modified on an individual basis.

As with any preparation for intramuscular injection, Vistaril (hydroxyzine hydrochloride) Parenteral Solution should be injected well within the body of a relatively large muscle such as in the upper outer quadrant of the buttock or the lateral thigh. To avoid the possibility of radial nerve injury, injections should not be made into the lower and middle thirds of the upper arm. Aspiration and proper anatomical selection of injection site should be observed as a precaution against inadvertent injection into a blood vessel or major nerve. In a few instances of reported intravenous administration of hydroxyzine hydrochloride, digital gangrene has occurred distal to the injection site, apparently the result of endarteritis and thrombosis. This event has been considered due to inadvertent intra-arterial injection, although the possibility of periarterial extravasation, with arterial spasm, cannot be ruled out. Therefore, particular caution should be observed when hydroxyzine parenteral solution is administered intravenously to insure that it is injected only into intact veins; avoid either intra-arterial injection or extravasation. Due to infrequent phlebitis resulting from too rapid intravenous administration of the solution, the rate of injection should not exceed 25 mg. per minute. A single intravenous administration in excess of 100 mg. is not recommended (see Adverse Reactions).

Adverse Reactions: No serious side effects have been reported and confirmed in the administration of hydroxyzine to date. While therapeutic doses of hydroxyzine seldom produce impairment of mental alertness, transient drowsiness may occur; this may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may be seen with higher doses. Involuntary motor activity, including rare instances of tremor and convulsions, has been reported, usually with doses considerably higher than those recommended. Extensive clinical use has substantiated the absence of toxic effects on the bone marrow or liver when hydroxyzine was administered in recommended doses for over four years of uninterrupted therapy.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2-3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. (In the course of normal red cell destruction in the body, approximately 8 Gm. of hemoglobin are liberated every 24 hours.) Therefore, it is recommended that, when given intravenously, parenteral hy-

(Continued on succeeding page.)

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a tranquilizer...consider

Vistaril®

HYDROXYZINE PAMOATE

(Continued from preceding page.)

droxyzine be diluted with 50 cc. of normal saline and given during a period of four minutes or more; with this technique, drug-induced hemolysis is unlikely.

Dosage: Oral—Adults: Dosage varies with individual requirements and ranges from 25 mg. t.i.d. to 100 mg. q.i.d.

Children: under 6 years, 50 mg. daily in divided doses; over 6 years, 50-100 mg. daily in divided doses.

Parenteral—For adult psychiatric and emotional emergencies, including acute alcoholism—I.M.: 50-100 mg. Stat., and q. 4-6 h., p.r.n.; I.V.: 50 mg. Stat., maintain with 25-50 mg. I.V. q. 4-6 h., p.r.n.

Nausea and vomiting—Adults: 25-100 mg. I.M. or I.V.; **Children:** 0.5 mg./lb. body weight I.M.

Pre- and postoperative adjunctive medication—Adults: 25-100 mg. I.M. or I.V.; **Children:** 0.5 mg./lb. body weight I.M.

Pre- and postpartum adjunctive therapy—25-100 mg. I.M. or I.V.

Patients may be started on parenteral therapy when indicated by the clinical situation. They should be maintained on oral therapy whenever this route is again practicable.

As with all potent medications, the dosage should be adjusted according to the patient's response to therapy.

Supply: Vistaril (hydroxyzine pamoate) Capsules—25 mg., two-tone green capsules; 50 mg., green-and-white capsules; and 100 mg., green-and-gray capsules; in bottles of 100 and 500. Each capsule contains hydroxyzine pamoate equivalent to 25 mg., 50 mg., or 100 mg. of hydroxyzine HCl.

Vistaril (hydroxyzine pamoate) Oral Suspension—Equivalent to 25 mg. hydroxyzine HCl per 5 cc. teaspoonful, in 1 pint bottles.

Vistaril (hydroxyzine HCl) Parenteral Solution—10 cc. vials, 25 and 50 mg. per cc.; 2 cc. vials, 50 mg. per cc., in packages of 6 vials; Isoject®, 25 and 50 mg. per cc., 1 cc. per unit. Isoject, 100 mg. per 2 cc. unit, 50 mg. per cc.

Composition (Parenteral Solution)

Each cc. contains: 25 mg./cc. 50 mg./cc.

Hydroxyzine

hydrochloride	25 mg.	50 mg.
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Benzyl alcohol	0.9%	0.9%
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Sodium hydroxide

(approx.) to adjust

to optimum pH	0.22%	0.46%
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Water for Injection	q.s.	q.s.
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More detailed professional information available on request.

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Over the Desk

(Continued from page 11)

the dentist and his assistant, positioned on either side of the patient; and the placement of the dental instruments nearby so that they can be handed quickly to the dentist by his assistant. All these conditions orient everything in the dental operatory around the treatment area—the patient's mouth.

By instituting the procedures, and using newer and more efficient types of equipment, the dentist can save much valuable time and see more patients with less physical strain.

The new way of practicing dentistry not only gives the dentist added time, but more years of comfortable productivity. The tiring, stooped-over position usually maintained throughout the dentist's day, the constant reaching for instruments, the shifting of vision from the conventional instrument-bearing tray to the patient and the eye accommodation to a variety of light intensities—all are minimized by the changed environment and the presence of a full-time chair side assistant.—News release, December 7, 1966, University of Alabama Medical Center.



Medical "Desegregation" of Maternity Floors: A liberalization in hospital licensing regulations in Illinois has resulted from a 2-year study of mixing gynecologic cases with maternity cases.

The November 1 issue of *Hospitals*, Journal of the American Hospital Association, contains the findings of the study undertaken in November 1963 which involved the intermixture of 26,387 obstetric and 5,302 gynecologic patients on the maternity floors of 12 Chicago hospitals.

Howard F. Cook, Executive Director of the Chicago Hospital Council, predicts that the change in hospital licensing regulations will allow hospitalization of 20,000 additional patients in Chicago each year without new construction, and "may well have impact beyond the boundaries of Illinois."

The purpose of the study was to determine clinically the feasibility of medically desegregating maternity floors in order to accomplish more efficient use of hospital beds. During the past 10 years there has been a progressive increase in empty obstetric beds in Chicago hospitals while general hospital beds have been in demand. The report concludes that hospitals, physicians and public health agencies can safely adapt to new ways of organizing and delivering medical care to patients.—American Hospital Association News Release, November 1, 1966.

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*As shown by *in vitro* studies.

1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. 65:311 (Feb.) 1953.



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phosphorated carbohydrate
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NUMA[®] DURA-TABS[®]
for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

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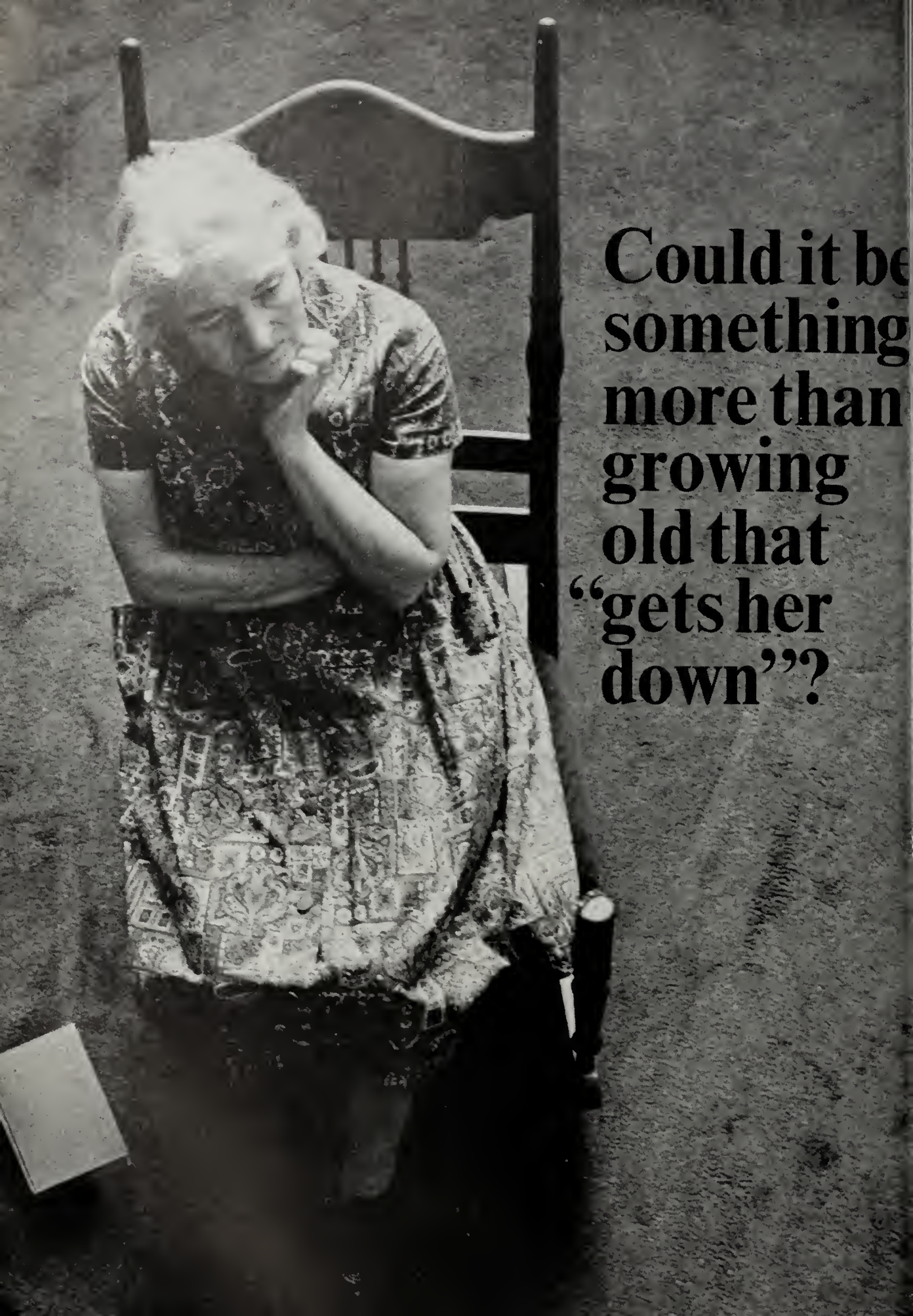
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And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%, pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B₁) (10 MDR*), 10 mg.; riboflavin (vitamin B₂) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B₆), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,[†] 100 mg.; inositol,[†] 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.

[†]The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

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when he just can't sleep
Tuinal[®]

**One-Half Sodium Amobarbital and
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Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis. Not suitable for continuous daytime sedation.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in pa-

tients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.



Dosage: 1½ to 3 grains at bedtime.

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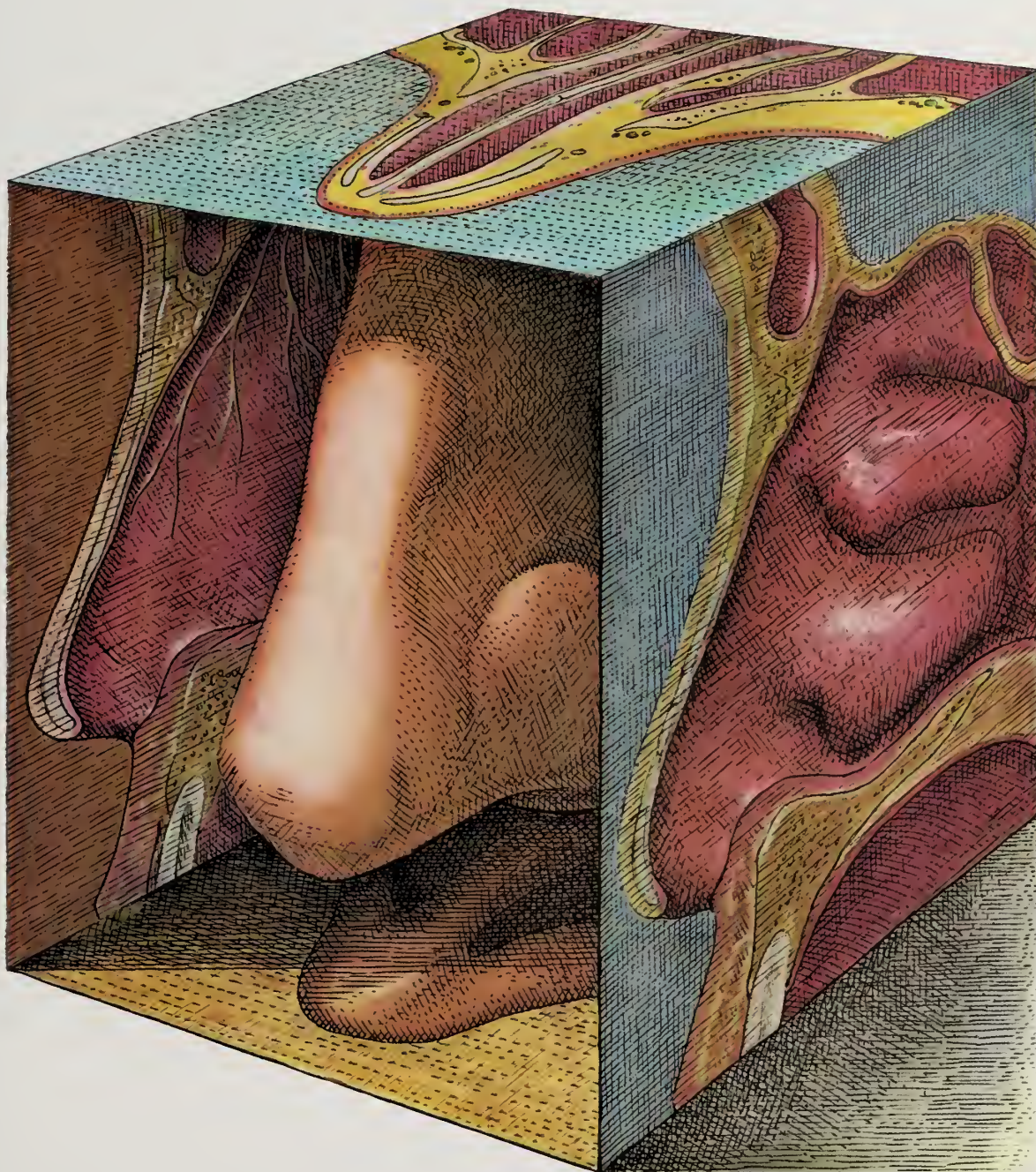
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DORSEY

spring 1967

Season

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this issue: the ubiquitous world of  summer allergies



the ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.¹ The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

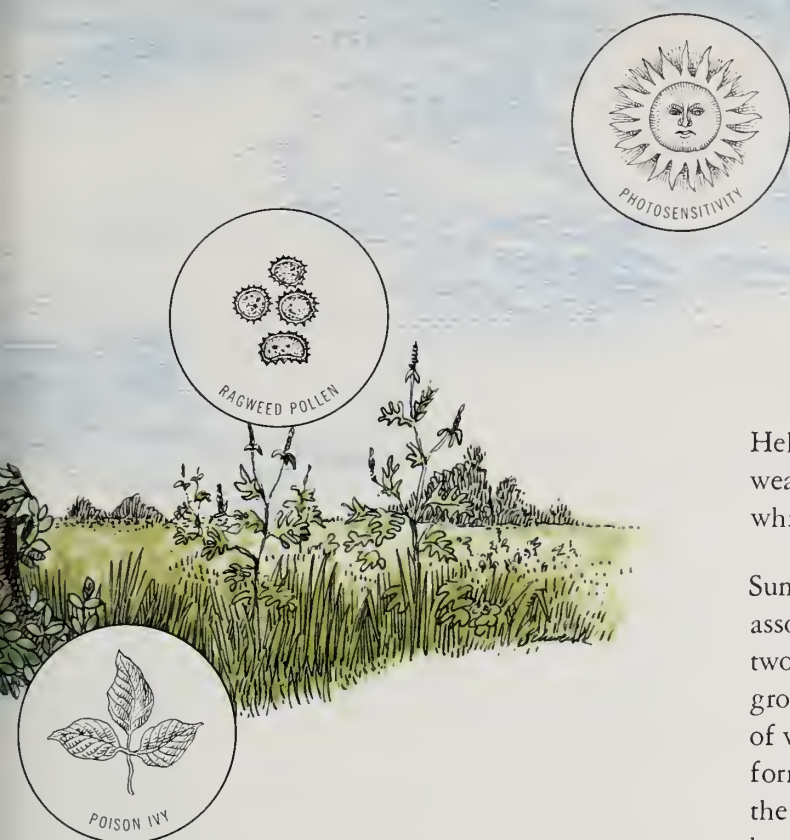
Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

Early in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.² The entire tree season starts about April 1 and ends about Memorial Day, al-

though all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.³ Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

Ragweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons



in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.⁴

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

While molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is *Alternaria*—the kingpin of the molds—that meets a sudden demise with the first frost. *Alternaria*-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, *Alternaria* counts are at their highest, perhaps associated with the burning of leaves. Other molds such as *Hormodendrum* and

Helminthosporium are associated with the warmer weather, as opposed to *Penicillium* and *Aspergillus* which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.⁵ Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.⁶ Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

(Concluded on following page)

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nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

another fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.⁷ Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.⁸ It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

References

1. Unger, L.: Bronchial asthma. Charles C. Thomas Co. p. 47, 1946.
2. Samter, M.: Immunological diseases. Little, Brown and Co. p. 513, 1965.
3. Wodehouse, R. P.: Antigenic analysis by gel diffusions: 2. Grass pollen. *Int. Arch. Allerg.* 6:65, 1955.
4. Cohart, E. M., and Kandle, R. P.: The Effects of a ragweed control program on ragweed pollen counts, *J. Allergy* 30:287, 1930.
5. Woddell, L. S.: Egyptian civilization: Its origin and real chronology and Sumerian origin of Egyptian hieroglyphics. London: Luzak & Co. 1930.
6. Parlato, S. J.: The sandfly (Caddis fly) as an exciting cause of allergic coryza and asthma: II. Its relative frequency. *J. Allergy* 1:307, 1930.
7. Ozere, R. L.: Demethylchlortetracycline photosensitivity. *Canad. M. A. J.* 85:1199, 1961.
8. Horton, B. T., Braun, G. E., and Roth, G. M.: Hypersensitivity to colds, *JAMA* 107:1263, 1936.

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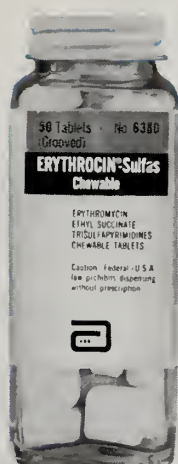
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1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



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Brief
Summary
on next
page

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Brief Summary

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Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

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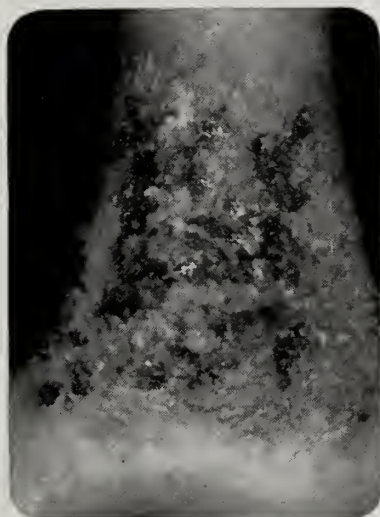
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Pharmacodynamic Consequences of Aging and Their Implications in the Treatment of the Elderly Patient

A. DOUGLAS BENDER, PH.D.*

TO A GREAT EXTENT the rational and intelligent use of a drug is dependent on an appreciation of basic pharmacodynamic principles. In other words, a knowledge and understanding of just how an organism handles and responds to drugs form the basis of practical therapeutics.

Because age is an important determinant of biologic function it follows that the manner in which both the very young and the very old handle and respond to drugs differs from that of young and middle-aged adults. An appreciation of these differences is necessary for the practical application of drugs in pediatric¹ and geriatric² patients.

The present discussion is limited to pharmacodynamic considerations in the elderly patient. Nevertheless, it should be noted that drug action and drug handling in the aged and the young are similar in many respects. The reason is that many mechanisms responsible for drug disposition arise and become fully functional during early development and then later exhibit a decline in function with advancing age. Three examples illustrate this point. Undeveloped renal function in the young¹ and depressed renal function in the old³ are apparently responsible for the impaired elimination of antibiotics resulting in higher blood levels. In animals it has been shown that the toxicity of morphine is greatest in the young and in the old.⁴ In the former this appears to be related to a change in the ability of morphine to enter the central nervous system.⁵ Finally, duration of hexobarbital anesthesia in the male rat is longest in the very

young and in the very old,⁶ a finding which is perhaps due to undeveloped metabolic enzyme systems in the young and impaired enzyme destruction in the old. Thus, it is apparent that biological function is the main determinant of drug disposition and effectiveness and not age per se. In a practical sense this stresses the need for individuality in the use of drugs in the elderly, since the manifestations of aging are not consistent from patient to patient.

A drug induces a response because it combines with selected molecules of the host (receptor sites) and, in addition to this affinity, exerts an effect (intrinsic activity) on the receptor. The magnitude of the response is determined in part by the concentration of the drug at its site of action. We may assume that the concentration at this site is in equilibrium with the concentration of the drug in the circulating plasma.⁷ In considering the magnitude and duration of the drug response we must concern ourselves with those factors which affect the plasma level, namely, absorption from the site of administration, distribution within the organism, excretion by various routes, and metabolism. At a given plasma level the response to a drug is dependent on the number of receptor sites, their condition, and the environmental conditions surrounding them (i.e., electrolyte content of intra- and extracellular fluid compartments) and by the ability of the organism to adjust to changes in its internal environment that may be imposed by the action of the drug.

Factors Affecting the Plasma Level

Absorption. It is obvious that for a drug to exert an effect it must be absorbed from the site of

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administration and must pass across cell membranes to reach its site of action. There are little data concerning the changes in drug absorption in subjects of different ages. In newborn infants changes in the biochemistry and cellular physiology of the gastrointestinal tract may be responsible for incomplete absorption of orally administered sulfonamides.¹

A number of authors^{8, 9, 10} have suggested that in the aged drugs are more slowly and less completely absorbed. Changes in absorptive capacity of the gastrointestinal tract are implied by the observations that there is less complete absorption of fat,¹¹ thiamine,¹² glucose,¹³ iron,¹⁴ and xylose¹⁵ in the older organism. Such variations in absorption are perhaps due to a deficiency in the number of absorbing cells or in their enzyme content. Changes in peripheral blood flow have been noted in older patients,¹⁶ and this situation may contribute to delayed and less complete absorption of drugs which are administered by a parenteral route.

Drug distribution. Drugs are distributed in a manner which is specific for each, and variations in the distribution are due to factors such as affinity for, and binding to plasma proteins, tissues and cells, and permeability of certain tissue barriers. From the data available it is difficult to predict exactly what changes may occur in the older patient with respect to drug distribution. Generally, we may anticipate that drug distribution is changed because of variations which have been observed in tissue composition, membrane permeability, and peripheral circulation.

Because the lipid solubility of many drugs may influence the magnitude and the extent of drug action, we might suggest that the increase in proportion of body weight contributed by fat in the older patient may significantly affect the duration of action of those drugs which are accumulated and stored in fat depots.

Changes in the permeability of the blood-brain-barrier can significantly affect the central action of many drugs. It has been shown that most drugs will reach the central nervous system of very young animals because the exchange properties of the blood-brain-barrier have not been fully developed. The newborn is therefore more susceptible to the central actions of the various drugs.¹

Thyroxin distribution space has been shown to be decreased with age.¹⁷ With the suggestion that this decrease in distribution is due to a decrease in the metabolic mass, one might expect the distribution of a drug to be influenced by the effect of age

on the tissue for which it has a particular or selective affinity.

Drug excretion. If drugs were not excreted or metabolized to inactive metabolic products they would act virtually for a lifetime. The duration of action of drugs is limited by either excretion or metabolism, the primary function being dependent on the nature of the compound administered. Most drugs and their metabolic products are filtered by the glomerulus, but their appearance in the urine depends on their lipid solubility. Highly lipid-soluble compounds are reabsorbed from the renal tubular fluid, so that their duration of action is limited primarily by metabolism to less lipid-soluble metabolites. Compounds which are of low solubility are excreted in the urine, and their duration of action is largely a reflection of kidney function. Another group of compounds are actively secreted into the tubular fluid and appear in the urine not as a result of filtration, but active secretion into the tubular fluid. In addition, some drugs are conjugated in the liver and are excreted in the bile. Thus, in terms of drug excretion we must think in terms not only of glomerular filtration but of renal secretory capacity and of hepatic function.

The effect of impaired renal elimination is well illustrated by the influence of probenecid on the plasma level of antibiotics. This agent inhibits transport mechanisms in the renal tubule resulting in a delay in the excretion of drugs normally excreted by this route. When it is given concomitantly with various antibiotics the maximum obtainable plasma level of the latter is greater¹⁸ and the duration of action is extended.

There is evidence to indicate that renal blood flow and glomerular filtration rate are reduced in the elderly,¹⁹ suggesting that drugs which are excreted by this route have a tendency to remain for longer periods of time and thus predispose the patient to cumulative toxicity. This is perhaps the reason why bromides, anticoagulants, and some of the barbiturates are to be used with caution in older individuals.

Evidence is also available which suggests that the transport systems involved in drug accumulation and secretion by the renal tubule may be impaired.²⁰ This may account for the higher level of antibiotics achieved in the elderly patient.^{3, 21}

While some have suggested that the ability of the liver to clear circulating drugs may be impaired, it has recently been shown that there are no differences in the rate at which either bromsulfalein or bilirubin is cleared in patients ranging in age from 20 to 90 years.²² Volatile anesthetics depend

on respiratory function for their elimination. It has been shown in mice,²³ for example, that the recovery time from ether anesthesia is greatly prolonged in the older animal, presumably as a result of delayed excretion by the respiratory route.

Drug metabolism. As indicated above, those compounds which are highly lipid-soluble depend on metabolic destruction for termination of their effect. Although some drugs may be metabolized by enzymes found in the circulating plasma and in a number of different tissues, the primary site of drug metabolism is in the liver, more specifically, the microsomal fraction.²⁴ Microsomes may be separated into smooth and rough microsomes, the drug enzymes systems being associated with the smooth, while the rough appear to be associated with the ribosome function in protein synthesis. Presently, it is believed that the enzymes responsible for catalyzing drug oxidations and reductions are located in the lipid membrane surrounding the microsomes.²⁴ That variations in the duration of action of drugs are a reflection of the ability of the organism to metabolize them is well illustrated by the effect of drugs which stimulate and which depress microsomal enzyme activity.²⁵

SK&F 525-A, a potent inhibitor of microsomal enzymes,²⁵ when given to rats results in a marked prolongation of the sleeping time resulting from hexobarbital administration.^{25, 26, 27} On the other hand, phenobarbital and some of the insecticides, including chlordane and DDT, stimulate microsomal enzyme activity,²⁵ with the result that they shorten hexobarbital sleeping time. The enzyme systems responsible for hexobarbital metabolism are similar to those responsible for the metabolism of strychnine²⁸ and some steroids.²⁹ Chlordane and phenobarbital have been shown to decrease the toxicity of strychnine²⁸ and to accelerate the metabolism of steroids.²⁹

In the newborn there is evidence indicating that the drug metabolizing systems are not fully developed.³⁰ In the experimental animal these enzymes appear within the first week after birth and increase to a maximum shortly thereafter. In the rat the peak activity is seen at 30 days of age,³¹ while in other species the maximum effect is seen in 8 weeks.²⁴ Similarly, the activity of enzymes that catalyze the formation of glucuronides are also low in newborn animals.³² These facts are perhaps responsible for the observation that various drugs administered in childbirth persist in children long after delivery.

In animals, available evidence indicates that with increasing age there is a reduction in the

ability of the organism to metabolize drugs. As an example, the old rat is less capable of metabolizing hexobarbital, strychnine, carisoprodol, and pentobarbital than is his younger counterpart.³¹ A decrease in enzyme activity may be the reason for the increase in toxicity of strychnine in the old rat.

With respect to plasma enzyme activity it has been shown that plasma cholinesterase of young male human subjects is about 24 per cent higher than that of old males. This conclusion is based on the observation that plasma from aged males is less capable of metabolizing acetylcholine, succinylcholine, and procaine.³³ However, because cholinesterase is present in excessive amounts, a reduction in activity of this magnitude would not necessarily have an effect on drug action.²⁵ In females it has been shown that there is no decrease in cholinesterase activity with increasing age.³³

It is important to recognize that not all drugs are metabolized to inactive metabolites.³⁴ While the majority of compounds are indeed metabolized in this manner, some drugs when administered are themselves inactive and depend on their activity for conversion to an active metabolite. For example, the sedative activity of chloral hydrate is dependent on its conversion to trichloroethanol. In these situations impaired enzyme activity would depress drug activity, not enhance it as in the examples cited above. In addition, some drugs are active, and so are their metabolites. Examples are the conversion of morphine to codeine, phenylbutazone to oxyphenbutazone, and imipramine to desmethylimipramine.

Drug-receptor interaction. Factors affecting the sensitivity of the receptor site include the number of active sites, their condition, and the environmental conditions surrounding them. This discussion will be limited to examples dealing with the number of receptor sites.

It has been shown that atropine fails to increase heart rate in the older patient to the extent that it does in the younger individual.³⁵ In addition, it has been shown that methacholine is far more effective in the treatment of paroxysmal auricular tachycardia in patients over 50 years of age.

In the central nervous system it has been shown that there is a decrease in the number of cells with advancing age. It has been postulated that, as a result, the action of stimulants is impaired, while there is an enhancement of the activity of depressants.^{36, 37} A good example of this in the experimental animal is the variation in the biological activity of amphetamine. This drug is less effective in the older rat in increasing spontaneous

motor activity^{36, 38}; on the other hand, its ability to depress appetite centers in the hypothalamus is apparently increased.^{36, 37} In old rats food intake is reduced to a greater extent than it is in the young animals.³⁹

Delayed or impaired metabolism of barbiturates may be a factor responsible for the intolerance of the elderly to barbiturates.⁴⁰ It has been suggested, however, that the excitation and restlessness observed in senile patients following administration of barbiturates may be explained on the basis that centers which are stimulated by barbiturates have been less influenced by age than centers which are sedated, so that the stimulating properties of the barbiturates predominate in the aged.⁴¹

Alterations in the diabetogenic activity of alloxan is another example of a deficiency in receptors. This compound produces a greater increase in blood sugar levels in old rats,⁴² a fact which is not apparently due to a greater effect of the drug or a greater sensitivity of the beta cells to the action of alloxan, but is a reflection of the number of beta cells. Since this number is reduced in the old animal, the dose of drug administered on a per beta cell basis is much higher and, consequently, there is a greater pharmacological effect.

Ability of the organism to adjust to changes in internal environment imposed by drugs. Because of impaired homeostatic capabilities, the elderly are more susceptible to secondary reactions resulting from the primary effect of a drug. For example, an impaired ability to respond to orthostatic stress may predispose them to greater reductions in blood pressure following administration of those agents affecting normal regulatory mechanisms, and thus the aged are more likely to show signs of cerebral, myocardial, and renal insufficiency when these drugs are given. This is important not only with respect to antihypertensive agents but also to those compounds which interrupt normal blood pressure regulation or impose a form of hemodynamic stress, i.e., a decrease in venous return. Agents affecting blood sugar levels may also be more effective in some cases because of limited regulatory capability involving the maintenance of blood sugar levels.

Practical Clinical Considerations

What are the practical clinical implications of these observations? Obviously, they indicate that the elderly patient is pharmacodynamically different from his younger counterpart, and in pre-

scribing drugs for use in older patients one should be alert to any special aging intolerances. The latter have been fully reviewed by Freeman.⁴³

Delayed elimination and metabolism of drugs indicate that higher blood levels may be achieved and suggest that, at least initially, lower doses of some agents should be employed. In addition, undesirable secondary reactions of drugs should be completely understood, especially those which concern the interruption of mechanisms which are known to be affected by age. An example of this type of caution is the possible development of hypotension which may result with various agents affecting the central nervous system function (tranquilizers⁴⁴ and antidepressants⁴⁵).

Though observations made in animals and in clinical studies indicate that a reduction in biologic function that occurs with age is capable of modifying drug activity, there is not, unfortunately, sufficient data to allow one to compile a complete set of rules which would govern the use of all drugs in the elderly patient. The lack of a consistent effect of age on the action of drugs, the difficulty inherent in extrapolating animal data to a clinical setting, the many different factors affecting drug response, the variability in patient-to-patient tolerance of drugs, and the individual variability in the onset and the rate of the aging process, all make it difficult to follow even some general principles. Nevertheless, a list of some general principles is provided here:

1. The indications for drug use are not generally age-related. While many diseases are more prevalent in patients in older age-groups, the symptoms requiring relief are not different from those encountered in a younger patient.
2. While drug activity is indeed modified by advancing age, the magnitude of the change in many cases does not serve to limit the usefulness of most drugs but may indicate a reduction in dose. Generally, most drugs are safe and effective in the elderly patient. When there are special and known intolerances in the elderly patient, one might consider the use of an alternate medication. For example, a synthetic narcotic agent may be substituted for morphine, and a glutethimide may be substituted for a barbiturate in the treatment of insomnia.
3. Drug treatment in the elderly should be based on:
 - a. An accurate diagnosis
 - b. Familiarity with the characteristics of the drug available
 - c. A thorough knowledge of the biology of the patient

- d. Known age differences in drug action
- e. Appreciation of those factors which influence drug activity.

It is important to recognize that the aging process is not consistent from patient to patient, and thus chronologic age alone is not the most adequate criterion for judging the state of the patient. Thus, it is necessary to prescribe drugs with a thorough knowledge of his biologic age as it relates to the factors which perhaps might affect drug activity (absorption, distribution, excretion, and metabolism). Known age differences have been reviewed by Freeman.⁴³

4. More so than in younger patients, the elderly exhibit multiple pathologic conditions requiring the concomitant administration of a number of different drugs with varying pharmacological properties. Thus, it is necessary that drug incompatibility be fully understood before drugs are used in combination. For example, the use of mono-amine oxidase inhibitors may result in the potentiation of the action of a number of drugs, potassium loss from a thiazide diuretic may precipitate digitalis toxicity, and, when anticoagulants are being employed, the concomitant administration of aspirin may result in a further prolongation of prothrombin time.

5. At the present time, there are no drugs available which are capable of reversing or preventing the aging process, with a possible exception being estrogen replacement in the female. It is interesting to consider the role of drugs in the prevention of aging; however, we are far from obtaining compounds which are active in this respect.

References

1. YAFFE, S. J., AND BACK, N.: *Postgrad. Med.*, 1966, **40**, 193.
2. BENDER, A. D.: *J. Amer. Geriat. Soc.*, 1964, **12**, 114.
3. VARTIA, K. O., AND LEIKOLA, E.: *J. Geront.*, 1960, **15**, 392.
4. CHEN, K. K., AND ROBBINS, E. B.: *J. Amer. Pharm. Ass.*, 1944, **33**, 80.
5. KUPFERBERG, H. J., AND WAY, E. L.: *J. Pharmacol. Exp. Ther.*, 1963, **141**, 105.
6. STREICHER, E., AND GARBUS, J.: *J. Geront.*, 1955, **10**, 441.
7. BRODIE, B. B., in Nodien, J. H., and Siegler, P. E., edited by: *Animal and Clinical Pharmacologic Techniques in Drug Evaluation*. Chicago: Yr. Bk. Pub., 1964, p. 69.
8. LEAKE, C. D.: *Texas Rep. Biol. Med.*, 1949, **7**, 336.
9. SALE, L., JR.: *J. Missouri M. A.*, 1952, **49**, 476.
10. SALTER, W. T.: *Geriatrics*, 1952, **7**, 317.
11. BECKER, G. H., MEYER, J., AND NECHELES, H.: *Gastroenterology*, 1950, **14**, 80.
12. DRAPER, H. H.: *Proc. Soc. Exp. Biol. Med.*, 1958, **97**, 121.
13. PHILLIPS, R. A., AND GILDER, H.: *Endocrinology*, 1940, **27**, 601.
14. YEH, S. D., SOLTZ, W., AND CHOW, B. F.: *J. Geront.*, 1965, **20**, 177.
15. ESSAM, F. M., AND ABOUL-WAFA, M. H.: *Geront. Clin. (Basel)*, 1965, **7**, 171.
16. BENDER, A. D.: *J. Amer. Geriat. Soc.*, 1965, **13**, 192.
17. GREGERMAN, R. I., GAFFNEY, G. W., AND SHOCK, N. W.: *J. Clin. Invest.*, 1962, **41**, 2065.
18. BURNELL, J. M., AND KIRBY, W. M. M.: *Ibid.*, 1951, **30**, 697.
19. DAVIES, D. F., AND SHOCK, N. W.: *Ibid.*, 1950, **29**, 496.
20. ADAMS, J. R., AND BARROWS, C. H., JR.: *J. Geront.*, 1963, **18**, 37.
21. LEIKOLA, E., AND VARTIA, K. O.: *Ibid.*, 1957, **12**, 48.
22. CALLOWAY, N. O., AND MERRILL, R. S.: *J. Amer. Geriat. Soc.*, 1965, **13**, 594.
23. BUCHSBAUM, M., AND BUCHSBAUM, R.: *Proc. Soc. Exp. Biol. Med.*, 1962, **109**, 68.
24. GILLETTE, J. R.: *Prog. Drug Res.*, 1964, **6**, 11.
25. FOUTS, J. R.: *Gastroenterology*, 1964, **46**, 486.
26. COOK, L., TONER, J. J., AND FELLOWS, E. J.: *J. Pharmacol. Exp. Ther.*, 1954, **111**, 131.
27. FOUTS, J. R., AND BRODIE, B. B.: *Ibid.*, 1955, **115**, 68.
28. KATO, R., CHIESARA, E., AND VASSANELLI, P.: *Biochem. Pharmacol.*, 1962, **11**, 913.
29. KUNTZMAN, R., JACOBSON, M., SCHNEIDMAN, K., AND CONNEY, A. H.: *J. Pharmacol. Exp. Ther.*, 1964, **146**, 280.
30. FOUTS, J. R., AND HART, L. G.: *Ann. N. Y. Acad. Sci.*, 1965, **123**, 245.
31. KATO, R., VASSANELLI, P., FRONTINO, G., AND CHIESARA, E.: *Biochem. Pharmacol.*, 1964, **13**, 1037.
32. BROWN, A. K., ZVELZER, W. W., AND BURNETT, H. H.: *J. Clin. Invest.*, 1958, **37**, 332.
33. SHANOR, S. P., AND OTHERS: *Amer. J. Med. Sci.*, 1961, **242**, 141.
34. WILLIAMS, R. T.: *Clin. Pharmacol. Ther.*, 1962, **4**, 234.
35. GROLLMAN, A.: *Pharmacology and Therapeutics*, 4th ed. Philadelphia: Lea & Febiger, 1960, p. 349.
36. VERZÁR, F.: *Acta Physiol. Acad. Sci. Hung.*, 1961, **19**, 313.
37. VERZÁR, F., AND FARNER, D.: *Gerontologia (Basel)*, 1960, **4**, 143.
38. FARNER, D., AND VERZÁR, F.: *Experientia*, 1961, **17**, 421.
39. FARNER, D.: *Gerontologia (Basel)*, 1961, **5**, 35.
40. FINE, W.: *Med. Press (London)*, 1959, **242**, 4.
41. JACOBSEN, E., in Hansen, P. F., editor. *Age With a Future*. Copenhagen: Munksgaard, 1964, p. 181.
42. BRUCKMANN, G.: *Endocrinology*, 1947, **41**, 201.
43. FREEMAN, J. T., editor: *Clinical Principles and Drugs in the Aging*. Springfield, Ill.: Thomas, 1963.
44. HADER, M.: *J. Mount Sinai Hosp. N. Y.*, 1965, **32**, 623.
45. MULLER, O. F., GOODMAN, N., AND BELLET, S.: *Clin. Pharmacol. Ther.*, 1961, **2**, 300.

Psychosomatic Medicine: A New Clarification

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with discussion by

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PSYCHOSOMATIC MEDICINE once seemed to be a fairly discrete subcategory of general psychiatry. In recent years, however, the use of the term has broadened to the point that it becomes increasingly unclear as to what is meant by the concept. Sometimes it is used to mean a philosophical approach to the total study of medicine in which the patient's way of living becomes the context in which his illnesses are viewed. Other times it means certain specific types of physical illness which have been claimed to have psychologic causation or, conversely, organically caused illnesses which are said to produce psychologic complications. Still other times the concept is used to refer either to the practice of psychologic methods by the nonpsychiatric physician or the practice of organic clinical medicine by a psychiatrist. In any event, the field of psychosomatic medicine (when viewed as a practice instead of a philosophy) has become a major meeting ground for psychiatry and the other medical specialties. The value of this new liaison may well be so great that clarification of the confusion in meaning of the term "psychosomatic medicine" might prove more harmful than useful. However, there seems to be great merit in clarifying the confusion for purposes of teaching medical students. It is to this end that the following report is directed. A systematic classification scheme is proposed. The subject is presented from a phenomenological point of view, treating the subject in the light of what is seen clinically, while largely avoiding the theoretical issues which are in dispute.

Background

During the past 200 years when psychiatry was

becoming a recognized specialty of medicine there has raged a persistent, unabated, and still unresolved controversy over the issue of organic versus functional causation of psychiatric problems. Before the present century this debate was explainable on the grounds that the patients studied were a heterogeneous group of people which included both those with and those without central nervous system disease, some of which were recognized as such and others not. During the 19th century the proponents of the organic school of thought received a great deal of support for their position from the progress being made in pathology, bacteriology, etc. which led to the development of substantial knowledge concerning such C.N.S. diseases as neurosyphilis, meningitis, brain tumor, etc. Also, since these kinds of data were the sort which acquired high status in medical science, the proponents of this school of thought tended to be more numerous, more powerful, and more widely published than the opposite school.

The 19th century proponents of the functional school included the fairly well respected advocates of "moral treatment," but their cause suffered somewhat because of those adherents who pursued the much less respected "mesmerism" and "phrenology" (perhaps, also, Christian Science). These latter movements certainly served to weaken the influence of the functional point of view and if it were not for one other factor might have succeeded in annihilating it altogether.

Probably the most important phenomenon which salvaged the functional approach was the fact that the organicists, in spite of their increasing support from pathologic data, still had no effective therapeutic measures available until the 20th century, whereas the functional advocates were able to demonstrate dramatic and effective therapeutic results from their psychologic approaches. In this connection it has been stated that the organic school survived because of the support it obtained from sympathetic scientific-medical circles, while the functional school sur-

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vived because of the support it got from grateful patients.

From time to time attempts have been made to bring these divergent points of view together. At the York Retreat, for instance, the Tukes provided a treatment environment based on the principles of "moral treatment," wherein physicians also practiced their organic therapeutic procedures.¹ At the beginning of the 19th century, Pierre Cabanis² provided the basis for a compromise between the 2 schools by offering the concept that "strong passions" could have pathologic consequences on the body, thus satisfying those claiming psychologic etiology and those looking for pathologic evidence. George Beard³ provided arguments for the other side of the coin with his concept of "neurasthenia" in which psychologic manifestations were said to result from a weakened or toxic state of the C.N.S. Within this framework, too, both schools could find refuge. These 2 concepts provided a way by which psychiatry could be taught and practiced without requiring a firm commitment to either the functional or the organic viewpoint, and could be said, therefore, to be a compromise between the divergent theories. Today, this viewpoint is sometimes known as "eclectic" and tends to stand in good repute. There still remains, nonetheless, a reasonable doubt that such a compromise is tenable.

During the present century the previously heterogeneous mix of patients has been separated into clearly distinguishable groups, with cases such as neurosyphilis and brain tumor having both pathologic and psychiatric characteristics distinctly different from cases such as schizophrenia and psychoneurosis. This advance should have been sufficient to resolve the old debate, but it has not done so. Instead, a third element has been sandwiched in between the "functional" problems and the "organic" ones to create the category of "psychosomatic" problems in which both the old debate or the old compromise finds a forum.

Examples of Psychosomatic Concepts

The Standard Nomenclature proposes the following ground rules for making a psychosomatic diagnosis (or, officially, a diagnosis of "psychophysiologic disorder"): "These reactions represent the visceral expression of affects which may be thereby largely prevented from being conscious. The symptoms are due to a chronic and exaggerated state of a normal physiologic expression of emotion, with the feeling or subjective part repressed. Such long-continued visceral states may eventually lead to structural changes. . . . They

are to be distinguished from conversion reactions (in which there might be somatic complaints) by (1) involvement of organs and viscera innervated by the autonomic nervous system, hence not under voluntary control or perception, (2) physiologic rather than symbolic origin of symptoms, (3) failure to alleviate anxiety, and (4) frequent production of structural changes which may threaten life." This definition clearly takes the Freudian position in the interpretation of the psychologic aspects (unconscious, repression, symbols, defense against anxiety), nonacceptance of which requires throwing out the whole definition. It also reveals a naïve concept of physiology, apparently not realizing, for example, that all organs and tissues of the body have autonomic innervation, while not suggesting or allowing for the all-important mechanisms by which emotion might be translated into visceral consequences (e.g., adrenergic effects).

The Freudian position was also explained by Fenichel⁴ who used the term "organ neurosis" to designate the phenomena in question. He stated: "These (organ neuroses) are the results of chemical changes of the unsatisfied person or physical results of unconscious attitudes." The vague allusion to chemistry, as in the other example above, begs the issue of the mechanisms involved and implies a cause-and-effect inevitability which is inconsistent with clinical observations.

Flanders Dunbar⁵ did much to popularize the modern preoccupation with "psychosomatic medicine" and went further than most investigators in respect to specificity. She described the "personality" profiles of different classes of psychosomatic problems, attempting to show a high degree of correlation between personality type and type of psychosomatic problem. For instance, she described the typical personality of her "fracture group" (accident prone) as follows: Their educational history showed a lack of planning, with frequent interruptions. Their work records showed multiple jobs or lack of advancement. Socially they were described as gregarious, neither dominating nor submissive; thinking showed impulsivity and a principal concern for immediate objectives. They were defensive about expressing feelings and had a tendency to avoid responsibility.

Other investigators have failed to substantiate Dunbar's findings of distinctive personality characteristics, and a review of the various "profiles" suggests they all add up to about the same thing, in somewhat different words, to the effect that all groups of subjects showed neurotic characteristics.

Weiss and English⁶ came to the same conclusion in their widely read book on "Psychosomatic Medicine" when they stated: "The psychopathology of psychosomatic disorders does not differ essentially from that of the neuroses. Freud's theory of the libido and his concept of anxiety prove just as useful in this as in the latter field." The gratuitous reference to Freud is representative of the frequent attempts made to arrive at the dubious organic-functional compromise, which substitutes a fashionable but uncomfortable straddling of 2 horses in place of a satisfactory understanding of the mechanisms.

Alexander and Szasz⁷ describe 3 schools of thought in the psychosomatic field: One claims that the organ involvement is symbolically related to the actual psychologic problem (e.g., fear of pregnancy leads to amenorrhea); another claims that the psychologic problem yields a general, nonspecific body reaction which then affects 1 or more organ systems irrespective of the nature of the psychologic problem; and the third school suggests a compromise between these 2, claiming there exists a certain list of possible types of body reactions to stress (e.g., gastrointestinal, cardiovascular) which bear only a very general and not necessarily symbolic relationship to the type of psychologic problem present.

An example of an attempt to define psychosomatic medicine in such all-encompassing terms that it loses its importance as a useful subcategory of psychiatry is that used in Noyes and Kolb's textbook.⁸ They divide psychosomatic cases into 3 groups: One is the group of neurotic patients who offer somatic complaints with no evidence of disease; the second is the group who have a physical disease in which a psychologic etiology is important; and the third is the group with standard physical diseases who show independent psychological overtones. These 3 groups cover essentially all patients with psychoneurotic characteristics and do not establish criteria for identifying a subgroup which would qualify for a special category.

The background material presented suggests the conclusion that much of what is written, discussed and taught under the heading of "psychosomatic medicine" is characterized by overgeneralizations, contradictions, and theoretical bias, together with a disregard for the study of essential mechanisms, and that these distortions are often dictated by the wish to find a fashionable position in the medical world which does not require commitment to either side of the ancient functional versus organic controversy. In the interest of clarity, a different and systematic approach is

offered below to the question of what might constitute "psychosomatic medicine."

Phenomenology

The design of a systematic classification of any "universe" of information requires that the specific be placed in a logical context with the general. Furthermore, a logical system is one determined by a consideration of the variables involved such that alternative categories are derived from the various options which operation of the variables makes possible. The subcategories arrived at logically are then mutually exclusive, each having characteristics which distinguish them from each other while sharing other characteristics which make each a member of the same general class. The usefulness of, or the test of reliability of the logical system is then determined by the degree to which it fits observed real phenomena.

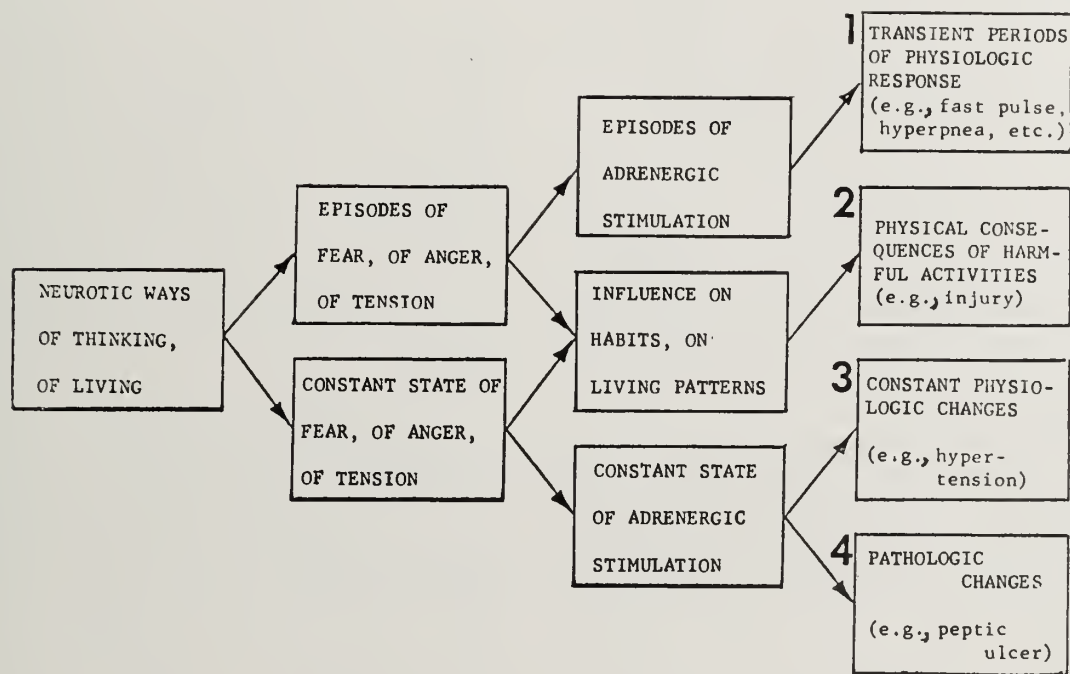
The immediate objective, therefore, of setting up a logical system for classifying psychosomatic disorders will be that of establishing the constraints for the general class of psychiatric disorders in which the psychosomatic ones represent a specific set of examples. We could start with a general class made up of people in general, but this is unnecessarily broad. It would be enough to begin with that general class of people who can be reasonably said to have neurotic ways of thinking and/or living. In this connection we can define "neurosis" as: "Ways of thinking and/or living which are maladaptive in the sense that they are self-defeating, and that they are based on a more or less irrational set of concepts of how to find success and satisfactions in life, with particular reference to those involving interpersonal relationships." This definition does not assume any major theoretical bias except that the focus of attention is on what goes on in the patient's mind and consequently in his way of life. It does not contradict any of the various psychologic theories of neurosis and therefore represents a reasonable area of possible agreement. Even some organic theories can fall within the scope of this definition if the theory grants that, whatever the ultimate cause, the immediate problem of the patient consists of failures in achieving a satisfactory adaptation. Greater disagreement might be encountered, however, as the thesis is developed further.

In any event, once it is assumed that we are dealing with a general group of neurotic people we can make some logical deductions about ways in which these people could encounter diffi-

culties which, among other possible consequences, could lead to psychosomatic problems. In the first place, the immediate effect of neurosis which is likely to initiate further developments is the distress, discomfort, or unpleasant feelings which these people frequently experience. These feelings usually (perhaps always) are one or a combination of the following: fear (anxiety), anger (resentment, jealousy), or tension (usually a product of a state of indecision). These uncomfortable states can be of 2 possible types: They either occur as transient episodes in the life of the patient, or they remain as more or less constant states. The accompanying flow diagram illustrates these alternatives, as well as those to be described further.

sumably occur in all people, neurotic and non-neurotic, and their occurrence in psychiatric patients differs from their incidence in 'normal' people only in that the emotional excitement experienced by the former group is more often unpleasant instead of pleasant. Physiologically, the frequency and intensity of such experiences are probably about the same, and no untoward consequences are to be expected at the physiologic level.

When, however, the state of emotional excitement is more or less constant, as is found in many psychiatric patients who appear to be almost constantly living in a state of fear, anger or tension, then long-term physiologic consequences can be expected. In such instances an almost constant



FLOW DIAGRAM: Variety of physical reactions to emotional responses.

In the patient whose state of fear, anger or tension is transient rather than constant certain consequences relevant to the issue at hand might follow. In the first instance, the immediate, transient emotional state produces an immediate, transient autonomic response, of a generally adrenergic nature which is manifested by the physiologic concomitants of these reactions (tachycardia, hyperpnea, dryness of mouth, sense of constriction in throat, tight muscles, etc.). The subsidence of the emotional reaction is then soon followed by an abatement of the physiologic response, and essentially no sequelae remain. The episodes pre-

adrenergic response is the immediate consequence which is highly likely to develop into a new level of homeostatic equilibrium, resulting, then, in unusual physiologic states. For example, it seems conceivable, and clinical experience seems to confirm this, that a long-standing state of adrenergic stimulation can lead to an abnormally high blood pressure level, which may, in fact, become fixed at a hypertensive level. It is also conceivable, and clinical experience confirms this with much less certainty, that constantly high autonomic-adrenergic stimulation can produce actual tissue changes which yield pathologic con-

sequences. Peptic ulcers may be examples of this kind of change.

In addition to the transient or constant physiologic changes on the one hand and to the actual pathologic changes which can take place as a result of autonomic stimulation on the other hand, another pathway is conceivable. Both transient and constant emotional distress can, and often does, lead to the individual's altering his habits and patterns of living in accordance with these emotional experiences. The unpleasant and uncomfortable emotional states which the neurotic patient experiences will, almost certainly, motivate him to alter his activities in (at least) the hope that thereby he might reduce the intensity and/or the frequency of these states of discomfort. These alterations in activities might meet with failure or (temporary) success, and when the latter is the case these activities are likely to become habits. Either isolated activities or habitual ones which are motivated in this way are likely to be self-defeating in the neurotic's life (otherwise he would not be a neurotic), and this might lead into complications which are deleterious to the individual. For example, one type of habitual activity possible in the neurotic is characterized by recklessness, which is likely to lead to frequent accidents resulting in the harmful effects of bodily injury. Similarly, in response to anxiety a neurotic may develop a physical state of obesity by habitually overeating.

In respect to the issue of long-term physical consequences of neurotic styles of living it can now be concluded that 4 different varieties of end-results can be classified. (These are indicated by the numbers 1 through 4 on the accompanying diagram.) First are those consequences which are essentially transient and episodic, producing measurable changes from the physiologic base line, but not strikingly different from states also found in the non-neurotic person and having no appreciable aftermath. Second are those abnormal physical states which are immediately caused by organically damaging experiences, which, in turn, are related to the neurotic state by virtue of the ways by which the latter might influence the development of habits and patterns of living which place the person in contact with the kind of experiences which might prove damaging. The normal person can have similar experiences but for different reasons. Third are those examples of more or less fixed or constant physiologic states which are measurably different from the normal and which can result in handicaps or constant distress. Lastly, the fourth group are those cases

which develop definite pathologic changes secondary to long-standing alterations in the level of physiologic equilibrium.

The Psychosomatic Category

Of the 4 different possible outcomes described, that which most clearly fails to qualify as 'psychosomatic' is the first, since it represents the best example of uncomplicated neurosis. On the other hand, that which best qualifies as 'psychosomatic' is the third group, because there is a clear and definite connection between psychologic origins and physical changes. The other 2 groups (2 and 4) are the most doubtful groups as far as deserving a psychosomatic classification is concerned. The second group is doubtful because the same physical consequences can be found in non-neurotic people (such as residuals of accidental injury), and the physical handicaps are more accidental than predictable results of neurotic difficulties. For the fourth group there is a wide body of support for including them in the psychosomatic category, as well as many good arguments for not including them. Resolution of the controversy would probably be facilitated by including them, since by doing so the issue is likely to be tested and studied to a degree which will finally resolve the issue. Therefore, this report proposes that they be included.

Specific Syndromes

Following is an outline of many, if not most, of the various clinical pictures which have been observed to have some kind of objectively measurable physical states associated with neurosis. They are listed under the 4 categories described, the first 2 of which this report suggests they not be considered under the 'psychosomatic' category, and the second pair which, it is suggested, do deserve this classification.

Group 1. In this group are included those examples of episodes in the life of a neurotic in which measurable physical phenomena occur in response to the physiologic effect of emotional excitement. Since they are isolated events of limited long-term significance occurring in a neurotic matrix wherein other phenomena are much more significant, they do not deserve special diagnostic recognition (normal physiologic response to emotional distress):

1. Hyperventilation, and the so-called hyperventilation syndrome
2. Tachycardia, palpitations
3. Vasomotor syncope, fainting
4. Nausea and/or vomiting

5. Diarrhea
6. Polyuria
7. Tension headaches
8. Hyper-alertness, insomnia
9. Sense of constriction of throat and dryness of mouth
10. Transient hypertension.

Group 2. In this group are included those habits and patterns of living which can produce physical consequences of a disabling nature in people whose response to emotional distress is by means of habit formation (neurotic habit formation):

1. Impulsive decision-making—recklessness, accidents, injury
2. Overeating—obesity
3. Food refusal (anorexia nervosa)—malnutrition
4. Tension—tics, stammering
5. Tension—constipation
6. Skin scratching plus self-medication—chronic dermatoses
7. Excessive drinking—alcoholism, malnutrition, cirrhosis
8. Narcotic abuse—drug intoxication, infection, accidents, etc.
9. Impotence, frigidity
10. Invalidism—muscle atrophy, contractures.

Group 3. This group includes those conditions which most convincingly qualify as psychosomatic (psychophysiologic) conditions, in that there exists a permanent, or at least long-standing, abnormal physiologic state in response to a rather constant adrenergic reaction to emotional distress (psychophysiologic reaction):

1. Hypertension
2. Amenorrhea, dysmenorrhea, ? miscarriages, ? sterility
3. ? Hypoglycemia
4. Underweight in the presence of adequate food intake
5. Secondary endocrine problems (? hyperthyroidism)
6. Spastic gastrointestinal tract (without lesions)
7. Hyperhidrosis, flushing, ? dermatographia
8. Arterial spasticity, ? migraine, coldness of extremities
9. Muscular tension, hypertrophy, joint stiffness, postural changes
10. Restlessness, overactivity, fatigue.

Group 4. The examples found in this group are those which demonstrate clear-cut pathologic (not merely physiologic) tissue changes which might be the consequence of long-standing, constant adrenergic stimulation. This group might properly be considered as psychosomatic. Presumably,

these cases are the later consequences of the types mentioned under Group 3. It seems more likely, however, that an additional complicating factor is necessary to produce these pathologic changes; for instance, coronary thrombosis might require an unrelated state of atherosclerosis complicated by psychologically determined hypertension, or cases of peptic ulcer might also require a stomach irritant such as alcohol to be superimposed on a hypermotile stomach (physiopathologic reaction):

1. Peptic ulcer
2. Ulcerative colitis
3. Coronary disease
4. Allergies
5. Allergic asthma
6. Chronic dermatoses
7. Arthritis (?)
8. Cerebral hemorrhage secondary to hypertension
9. Adrenocortical exhaustion (?)
10. Premature aging secondary to increased metabolic rates (?).

Summary

This report contends that the subject of 'Psychosomatic Medicine' has come to be discussed recently from so many divergent viewpoints that it is no longer a discrete field of study. It is no longer clear that what is meant by the term is a diagnostic classification, a philosophy of medicine, or a description of a type of medical practice. In the interest of clarifying the subject for teaching purposes a classification scheme is hereby developed which places 'psychosomatics' in a logical context with psychiatric syndromes, thus making it a subcategory of diagnostic problems.

References

1. TUKE, S.: Description of the Retreat, an Institution Near York. London, 1813; reprinted, London: Dawsons of Pall Mall, 1964.
2. CABANIS, P.: Coup d'Oeil sur les Revolutions et sur la Reforme de la Médecine. Paris: Chez Crapart, Caille, et Raviere, 1804.
3. BEARD, G.: A Practical Treatise on Nervous Exhaustion (Neurasthenia). New York: William Wood, 1880.
4. FENICHEL, O.: The Psychoanalytic Theory of Neurosis. New York: Norton, 1945.
5. DUNBAR, F.: Psychosomatic Diagnosis. New York: Hoeber, 1943.
6. WEISS, E., AND ENGLISH, O. S.: Psychosomatic Medicine, 3rd ed. Philadelphia: Saunders, 1957.
7. ALEXANDER, F., AND SZASZ, T.: The Psychosomatic Approach in Medicine. Chicago: Univ. Chicago Press, 1952.
8. NOYES, A. P., AND KOLB, L. C.: Modern Clinical Psychiatry, 6th ed. Philadelphia: Saunders, 1963.

Discussion by Paul Chodoff, M.D.

In the first part of his paper Dr. Goshen mounts a vigorous attack on what he regards as the unsatisfactory present-day position of psychosomatic medicine. His bill of particulars lists, first, that the term "psychosomatic medicine" has come to be encrusted with so many meanings that its usefulness is seriously impaired; second, that perhaps by reason of this very lack of precision the term now serves as a kind of weaseling compromise for psychiatrists who are unable to resolve the organic-functional etiologic dichotomy; third, that workers in the field of psychosomatic medicine have failed to solve the problem of specificity (why a peptic ulcer in one case and bronchial asthma in another?); and, fourth, that theories which attempt to explain psychosomatic relationships rely too heavily on Freudian psychoanalytic concepts.

For someone like myself who has conducted a seminar for teaching psychosomatic medicine to a group of psychiatric residents, Dr. Goshen's conclusion that "much of what is written, discussed and taught under the heading of Psychosomatic Medicine is characterized by overgeneralizations, contradictions, and theoretical bias" must be accepted. I agree that much of the literature devoted to the discussion of psychosomatic subjects is repetitious and unconvincing and does not conform to the requirements of scientific method. However, I believe that Dr. Goshen has overstated his case. Certainly psychosomatic medicine is not a clearly defined term, but there is not as much confusion about it as Dr. Goshen suggests, and some of the meanings which he gives to it are not in such wide use as to constitute real causes of confusion. Also, except in circles where polemics are more important than understanding, the organic versus functional controversy in the either/or sense employed by Dr. Goshen is no longer a live issue and has been superseded by a more sophisticated multifactorial view of what enters into emotional illness, including that form of emotional illness which has physical consequences. Thus, as an example, outside the realm of psychosomatic medicine the currently most widely accepted theories of the etiology of schizophrenia have ample room for both genetic and life-experience factors.

Although the problem of specificity is a stubborn and troublesome one for psychosomatic research, it must be acknowledged that similar problems exist in general psychiatry and that they are not

unknown even in the field of general medicine. Do we entirely understand why patients develop different forms of physical illness or, indeed, why an individual becomes ill at all? At any rate, psychosomatic research certainly has passed beyond and discarded the early views of Flanders Dunbar which are given a disproportionate weight in Dr. Goshen's paper. Current theories dealing with the problem of specificity take into account both predisposing, organic-genetic factors, and constellations of emotional conflict which are regarded as necessary but not sufficient causes of the psychosomatic disorder. As an example, the elegant paper of Weiner, Thaler, Reiser and Mirsky¹ describes the development of peptic ulcers in those individuals among a group of army recruits who combined an elevated blood pepsinogen level and unresolved conflicts over dependency. As for Dr. Goshen's fourth stricture on psychosomatic medicine, its undue emphasis on Freudian concepts, I believe that his own formulation becomes involved in serious difficulties because of his attempt to leave these mechanisms out of consideration, as will be pointed out later in this discussion.

Following his critique of the present-day status of psychosomatic medicine Dr. Goshen proceeds to attempt to impose a more rational and logical order on those phenomena which have been called "psychosomatic." He does this first by establishing a general order of psychoneuroses which are defined as consisting of maladaptive ways of thinking and living. Episodes of adrenergic stimulation resulting from dysphoric emotion may occur in psychoneurotic individuals, either as transient or more or less constant states. Accompanying these episodes are various physiologic changes, no different from those occurring in normals when they are transient, but inducing long-term physiologic and possibly even pathologic changes when the states of adrenergic stimulation are constant. In addition, psychoneurotic individuals may react to their unpleasant emotional experiences by developing certain habits and living patterns which may have harmful physical effects. However, only the long-term physiologic changes and possibly their presumed pathologic consequences deserve to be considered within the category of true psychosomatic illnesses.

The attempt to bring order out of disorder is always to be applauded, but such attempts are less valuable when important elements are left out of consideration or are inadequately explained.

It is not clear to me from the paper how complete a roster of the possible physical consequences of psychoneurosis Dr. Goshen means to encompass in his scheme. However, certain well recognized entities are omitted; for instance, he does not mention hysterical conversion reactions although these are certainly physical concomitants of psychoneurosis. Incidentally, it seems to me that these do not fit into any of his 4 groups very well. Also, although he mentions as a possibility in his Group 4 cases that an organic irritating factor may also play a role, I do not think he gives sufficient weight to the need to postulate some form of organic or genetic predisposition as a necessary part of the etiology of psychosomatic conditions.

However, my chief difficulty with Dr. Goshen's theory is that in his effort to remain on a phenomenological level and to leave out psychoanalytical mechanisms, he restricts his third and fourth categories to "psychiatric patients who appear to be almost constantly living in a state of fear, anger, or tension." But by no means all patients with, say, hypertension are constantly aware of dysphoric emotion. Thus, unless we accept the fact that psychologic defense mechanisms, such as repression, can be responsible for a dissociation between an adrenergic response at a physiologic

level and conscious awareness of unpleasant emotional feeling, such cases remain unexplained or fall outside Dr. Goshen's definition of psychosomatic disorders.

The evidence that mental events can occur outside of conscious awareness and that there may be a splitting between the physiologic and feeling aspects of emotional experience is very strong, and attempts to explain psychosomatic or psychoneurotic phenomena are badly handicapped if this evidence is not taken into account. That mental mechanisms need not be left out of efforts systematically to study and to order psychosomatic phenomena is attested to by the work of many years of Dr. George Engel² who takes into account behavioral, physiologic, and psychoanalytic elements in his very comprehensive and inclusive classification of the somatic consequences of psychologic stress.

References

1. WEINER, H., THALER, M., REISER, M. F., AND MIRSKY, I. A.: Etiology of duodenal ulcer. I. Relation of specific psychological characteristics to rate of gastric secretion (serum pepsinogen). *Psychosom. Med.*, 1957, 19, 1.
2. ENGEL, G. L.: *Psychological Development in Health and Disease*. Philadelphia: Saunders, 1962.

Discussion by Jesse Rubin, M.D.

As Dr. Goshen points out, the field of psychosomatic medicine is difficult to teach because of confusion, poor definition, and complexity. Certainly the need for a unified scheme which can be presented to medical students is great. Dr. Goshen is to be commended for attempting to formulate such a scheme. However, his approach would require revision of several major points to be clinically and heuristically useful.

First, Dr. Goshen's article focuses only on 1 psychosomatic pathway, that of adrenergic stimulation. He omits mention of parasympathetic phenomena, neuroendocrine pathways (particularly the pituitary-adrenal axis), intervention of the striated musculature (especially that innervated by the cranial nerves), and the issue of differentiation of various adrenergic effects (for example, the differential response to epinephrine versus norepinephrine).

Second, Dr. Goshen's formulation presents psychosomatic illnesses as a result only of the effects of the mind on the body. In his diagram the arrows point only 1 way (from emotional cause to somatic effect). In contrast, a field theory ap-

proach may be more fruitful in understanding psychosomatic diseases. This approach requires that in any psychosomatic scheme the arrows point both ways, so that the psychophysiologic unit is viewed as a whole with constant feedback between the mental and physical parts of the individual and his total illness.

Third, Dr. Goshen seems to indicate that only 2 pathways exist for the discharge of "episodes of fear, of anger, of tension." These are adrenergic stimulation and influence on habits and living patterns. However, such episodes do not necessarily lead to either of these, but most often are channeled into psychologic symptoms such as anxiety, depression, and other neurotic and psychotic states. In fact, one of the most puzzling problems in psychosomatic medicine is why one person will develop neurotic or psychotic symptoms, while a second individual with a comparable anxiety level will have abnormal habit patterns, and a third will respond with a psychosomatic disease. Each person seems to have a preferred pathway (psychosomatic, behavioral, or neurotic) for discharging emotional tension. Whether the

"preference" is inborn or the result of specific environmental stress is as yet unknown.

Finally, there is certainly a need for a clear classification of psychosomatic illness. As an alternative to Dr. Goshen's 4 categories I would suggest a system based on 3 types of criteria: First, a division into diseases in which, according to our best knowledge at present, psychosomatic interrelations play a major etiologic role. This would include such diseases as ulcerative colitis, thyrotoxicosis, and peptic ulcer. This would be in contrast to those diseases in which the psychophysiology relationship is probably of less im-

portance. Second, with each psychosomatic illness, one could describe the most important pathways transmitting the physiologic and somatic alterations. These would include the adrenergic, cholinergic, pituitary-adrenal axis, etc. Third, the illness would be classified according to the major psychological events and feelings which seem related to the disease process. Certain psychosomatic illnesses seem to occur concomitantly with depression, others seem more related to episodes of rage, while with others symbolic expression of specific conflicts seems to occur.

Discussion by Armon Anthony Cairo, M.D.

To read and make comments on a paper written by someone else is to some degree like being asked to be a Monday morning quarterback. I am reassured, however, by the knowledge that the author of this paper will have his turn at rebuttal and can at that time comment on the comments.

I agree with Dr. Goshen in his criticism of the standard nomenclature of psychiatric diagnosis. In the section on psychophysiology reactions his classification demonstrates contradiction between the parameters of a psychophysiology diagnosis and the diagnoses it lists. The parameter in question states that psychophysiology disorders involve organs and viscera innervated by the autonomic nervous system and hence not under voluntary control or perception. The contradiction lies in the fact that it then lists psychophysiology musculoskeletal reactions under which there are included back strain, nonspecific myositis, myalgia, muscle cramps, etc. It would seem obvious that muscle tightness secondary to nervous tension is mediated via the peripheral nerves and not through the autonomic nervous system.

As to the meat of the author's basic premise which revolves around adrenergic stimulation with release of adrenalin either transiently or constantly which then causes physiologic responses varying from the commonly experienced fear reaction to the more controversial and serious somatic pathologic entities such as peptic ulcer, hypertension, etc., one can conclude that perhaps for purposes of oversimplification the author has chosen to ignore the parasympathetic portion of the nervous system, the effects of stress on 17-ketosteroid metabolism, the hypothalamus, the pituitary hormone gland axes, the reticular activating system, and the limbic brain.

It is difficult to understand how adrenalin can

cause bronchiolar spasm (asthma) when in fact it is used to treat the condition. In the same light it is confusing to understand how it causes spasticity of the gastrointestinal tract when in fact this is mediated through the parasympathetic portion of the autonomic nervous system. One could use a similar argument regarding a number of the other conditions listed as being caused by transient or constant adrenergic stimulation.

As to the concept of psychosomatic medicine, I agree that there is need for a conceptual model that is teachable, but as with any construct there is always the problem of oversimplified and dogmatic conclusions at the expense of facts and knowledge. I am not certain we know enough about psychophysiology mechanisms at this point to make absolute pathogenetic statements. We do know, and have known for some time, that emotions cause physiologic responses of both pleasant as well as unpleasant varieties. We sometimes overlook that many of the pleasurable physiologic responses we have are emotionally induced. Examples of this include erection of the penis in response to sexually stimulating thoughts and feelings; increased salivation in response to gustatory thoughts or discussions; laughter in response to humor; tears in response to happiness. These as well as the less pleasant psychophysiology responses are thought to represent a form of communication that can best be called "body language." As such, this language is universal and at times clearly translatable and at other times very subtle and less clear. Most of us easily accept the concept that our bodies communicate thoughts and feelings through body posture, varying facial expressions, gait, purposeful as opposed to purposeless motor activity, etc. We are much less able to comprehend, however, the

concept that emotional conflicts can be channeled into specific bodily symptoms that express the underlying emotion symbolically. Simple examples of this might be as follows: the person who cannot "bellyache" may end up with a bellyache; the person who cannot gripe may be griped; sometimes when people are "pissed off" they may have urinary frequency; people who have difficulty giving vent to feelings may have difficulty with their respiration, etc., etc.

We understand how the above can happen, but what is still very much unclear is why some of us use our body to express emotions, others of us use psychic symptoms, and still others of us express our conflicts through outward behavior instead. Most probably all of us use all of these methods of expressing emotional conflicts in varying mixtures so that when, for example, we see someone who has a spastic colon in response to his life's problems we can often discern that in addition to the psychosomatic response there is also evidence of anxiety or depression or obsessive attitudes (neurotic response), and that his or her behavior tends to be obstructionistic and oppositional (behavioral response).

There is evidence to suggest that the primary method of handling emotional conflicts has much to do with a person's earlier life's experiences and training. There are a variety of speculations as to how this happens, but presently there is no clear-cut, generally accepted genetic modality. The use of the term constitutional predisposition is often used to explain why a person tends to have somatic as opposed to behavioral or neurotic problems, but to me this is a convenient way of saying, "I don't know." Familial orientation is also much discussed, and there would seem to be a good deal of validity to the notion that children will imitate parental ways of handling stress just as they imitate other patterns of the parents.

There is also the concept that a person's ego strength (ability to solve problems and establish consensus between outside environmental demands and internal primitive conflicts) determines what the primary method of dealing with stress will be. This concept includes that of family

orientation in that a child's ego is mostly influenced by exposure to his parents' ego stability. However, this concept would also encompass those instances in which a child is able to draw on a nonfamily exposure and utilize the parental failures in dealing with life as a teaching experience that leads to the antithesis of their ways of doing things. This concept stresses that the better organized the ego the less self-defeating solutions to stress there will be. Thus, in theory, the "normal person" is able to deal with anxiety-provoking stresses at more or less a conscious level and effect appropriate solutions. The less organized ego will deal with anxiety with less appropriateness but still at the level of thoughts and feelings, and this is called neurotic, with the anxiety either being felt directly as anxiety or displaced into other neurotic patterns such as phobias, depression, obsessions, dissociation, etc.

At still a less organized level of ego integration the individual tends not to be able to control the inner primitive conflicts which then are discharged in self-defeating sets of behavior which are familiar in any society and include such things as pathologic gambling, alcoholism, promiscuity, criminality, etc. At still a lesser level of ego integration the inner conflicts are dealt with at a more non-conscious level and are channeled into body language or somatic symptoms. In some instances the ego integration of those suffering from psychosomatic disorders is so borderline that one sees asthma disappear as psychosis appears and vice versa. This has also been noted with other psychosomatic disorders, notably ulcerative colitis and peptic ulcer. Finally, with the least integrated egos one sees the totally inappropriate reactions referred to as psychosis.

The above is offered to demonstrate the complexities of psychologic conflicts and behavior, reiterating once more that we are not sure why some of these things happen. What we are sure of, however, is that emotions can cause bodily symptoms and structural changes and that there is still a good deal of research and understanding to be sought for in this field. Hopefully, the future will clarify some of the things that puzzle us now.

Author's Comments on Discussions

Dr. Chodoff's discussion is a case in point, namely, an example of the organic versus functional compromise mentioned in the article. He attempts to straddle the fence, one which the article claims to be an untenable one. If his argu-

ments have merit, then his points effectively discredit the article, and vice versa, if the arguments in the article have merit, then they effectively negate the points made by Dr. Chodoff. The

(Continued on page 286)

Recent Studies on Live Tularemia Vaccine*

HENRY T. EIGELSBACH, PH.D.†, RICHARD B. HORNICK, M.D.‡, AND JERRY J. TULIS, PH.D.§

THE STUDIES ON TULAREMIA summarized here were performed through the combined and coordinated efforts of personnel representing 3 installations: the University of Maryland School of Medicine, the Ohio State University Research Foundation, and the U. S. Army Biological Sciences Laboratory and Medical Unit, Fort Detrick, Frederick, Maryland.

Various killed vaccines against tularemia have been used for years, but the continued occurrence of infections in laboratory workers, despite repeated doses of vaccine, clearly indicated that protection, if any, was of limited degree. Several years ago a program was designed at Fort Detrick to seek specific information on this problem. The studies eventually led to the production and use of a live vaccine for the prevention of tularemia and to the investigation of various methods of administering it. This report considers these findings in man in sequential steps, together with the extensive corollary studies in animals.

A killed vaccine, developed originally by the late Lee Foshay, M.D. of the University of Cincinnati School of Medicine, was used.¹ Subjects were examined to : certain the degree of protection afforded by vaccination when the virulent *Pasteurella tularensis* strain SCHU S4 was subsequently administered by subcutaneous inoculation or by inhalation. Each time the challenge strain was to be used in man or animal the culture was checked to insure that maximum virulence had been maintained, the requirement being that under suitable conditions 10 cells would produce death, with few exceptions, in nonvaccinated monkeys, guinea pigs, and mice.

Preparatory to the studies in volunteers a series of investigations was performed on more than 200 monkeys to obtain data on the intracutaneous dose of *P. tularensis* required to infect, the effective-

ness of streptomycin or chlortetracycline therapy, and the protection afforded by repeated vaccination. It was found that an intracutaneous dose of 10 organisms would infect all animals routinely and that the majority died within 30 days. Detailed clinical and laboratory studies, including histologic examination of the tissues of all animals that died or were sacrificed, revealed that animals that had received the killed Foshay vaccine were as readily infected with 10 organisms as were the controls. However, the vaccinees, challenged intracutaneously with this low dose, developed a modified disease with a slightly lower mortality. When 1,000 organisms were used for the intracutaneous challenge dose there was no appreciable difference between responses of vaccinees and controls. Streptomycin was highly effective and superior to chlortetracycline for treatment (table 1). When treatment was begun

TABLE 1: Antibiotic Therapy of the Monkey Infected Intracutaneously with *Pasteurella tularensis* SCHU S4

Antibiotic	Therapy Schedule	Mortality within 30 days Per cent*	Animals Harboring <i>P. tularensis</i> or Showing Pathology When Sacrificed Per cent	
			Culture Isolated	Necrotic Lesions
None		100		
Streptomycin	50 mg. q. 6 h. (I.M.)	0	0	0
Streptomycin	100 mg. q. 12 h. (I.M.)	0	0	0
Chlortetracycline	125 mg. q. 6 h. (oral)	0	70	60

* 10 animals per group infected with 10³ organisms.

approximately 28 hours after the animals became febrile there were no deaths. When the animals were sacrificed 60 days after cessation of chlortetracycline therapy, lesions were observed and *P. tularensis* cultures were isolated from the majority of the animals. This was in contrast to results obtained with streptomycin, which is bacteriocidal for this organism. Data provided by these and other studies and accumulated information from the naturally occurring disease and from laboratory infections of man formed a broad base

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of experience for the study of tularemia in volunteers.

This report will be confined primarily to studies in volunteers challenged via the respiratory route. However, in summary of the studies performed in collaboration with Samuel Saslaw, Ph.D., M.D.,² Ohio State University School of Medicine, Columbus, in which volunteers administered the Foshay vaccine were challenged intracutaneously, it was found that a challenge of 10 organisms inoculated intradermally would routinely cause clinical illness in both vaccinees and controls. Streptomycin was effective for therapy, and the killed vaccine did not provide substantial protection. In table 2 are shown data also obtained in collaboration with Dr. Saslaw.³ When vaccinated and nonvaccinated

stable variant and increase its virulence and perhaps immunogenicity for relatively more resistant hosts such as man by passing it serially through white mice. From the blood of a moribund mouse a culture of suitable virulence was obtained and characterized. We designated this derivative live vaccine strain LVS.⁹ Live vaccine was administered to animals dermally by multiple puncture in a manner comparable to that generally used for smallpox vaccination; this produced a benign lesion at the site of administration but no evidence of systemic disease. Animals were found to have developed considerable protection against a small respiratory challenge; all vaccinees survived and all controls died. Results of a more formidable challenge of 10,000 to 50,000 organisms are shown in table 3. These data, in an animal less resistant to tularemia than man, were sufficiently encouraging to warrant an extension of the study to man.

TABLE 2: Evaluation of Killed Tularemia Vaccine in Man*

Respiratory Dose	Volunteers Ill after Challenge†	
	Vaccinees Per cent	Nonvaccinated Controls Per cent
15-50 organisms	57‡	75§

* Summary data provided by Saslaw.³
† No modification of the disease was observed in the vaccinees.
‡ Illness in 8 of 14 volunteers.
§ Illness in 6 of 8 volunteers.

TABLE 3: Immunogenicity of Live Tularemia Vaccine for the Monkey Challenged via the Respiratory Route

Group*	Infected Per cent	Survived Per cent
Vaccinated	100	0
Nonvaccinated	100	62

* 13 animals per group; each monkey inhaled 10,000 to 50,000 organisms.

volunteers were administered 15 to 50 organisms of strain SCHU S4 by the respiratory route, overt disease occurred in both vaccinated and nonvaccinated individuals. There was no appreciable difference in infectivity rates, but perhaps even more revealing were the observations that the clinical syndrome and the incubation period were comparable in both groups. Early use of streptomycin effected prompt remission of the disease.

These studies and the knowledge that 96 persons at Fort Detrick had been hospitalized with tularemia, even though they had received the Foshay vaccine, stimulated efforts to provide a more effective vaccine. Previous findings in our laboratories^{4, 5} and some preliminary reports by others^{6, 7} indicated that a live tularemia vaccine might be the solution. For the preparation of live vaccine we used a derivative of a USSR vaccine strain.⁸ We found the original culture to be comprised of a mixture of variants differing in colony morphology, in virulence, and in immunogenicity for animals. Since previous studies had indicated that *P. tularensis* organisms incapable of routinely killing mice were also incapable of inducing high-grade protection, the next step was to select a

Under the direction of Colonel William D. Tigertt, former Commanding Officer of the U. S. Army Medical Unit at Fort Detrick, rehydrated lyophilized live vaccine prepared in our laboratory with strain LVS was administered to volunteers by multiple punctures.¹⁰ A benign lesion was produced at the site of inoculation; only a pink scar remained 1 month after inoculation. The appearance of the lesion 4 days and 8 days after vaccination is shown in figure 1. No significant systemic reactions occurred. Occasionally there was slight but not painful enlargement of the regional lymph nodes. The agglutinin response was good, and live vaccine, in contrast to killed vaccine, provided man substantial protection against a small respiratory challenge of 10 to 50 organisms.³

A subsequent investigation was performed in collaboration with F. R. McCrumb, M.D.¹¹ and T. E. Woodward, M.D., University of Maryland School of Medicine, Baltimore. Approximately 1 year after vaccination with LVS volunteers were exposed via the respiratory route to 200 to 20,000 virulent organisms of strain SCHU S4. All non-vaccinated volunteers developed a severe illness

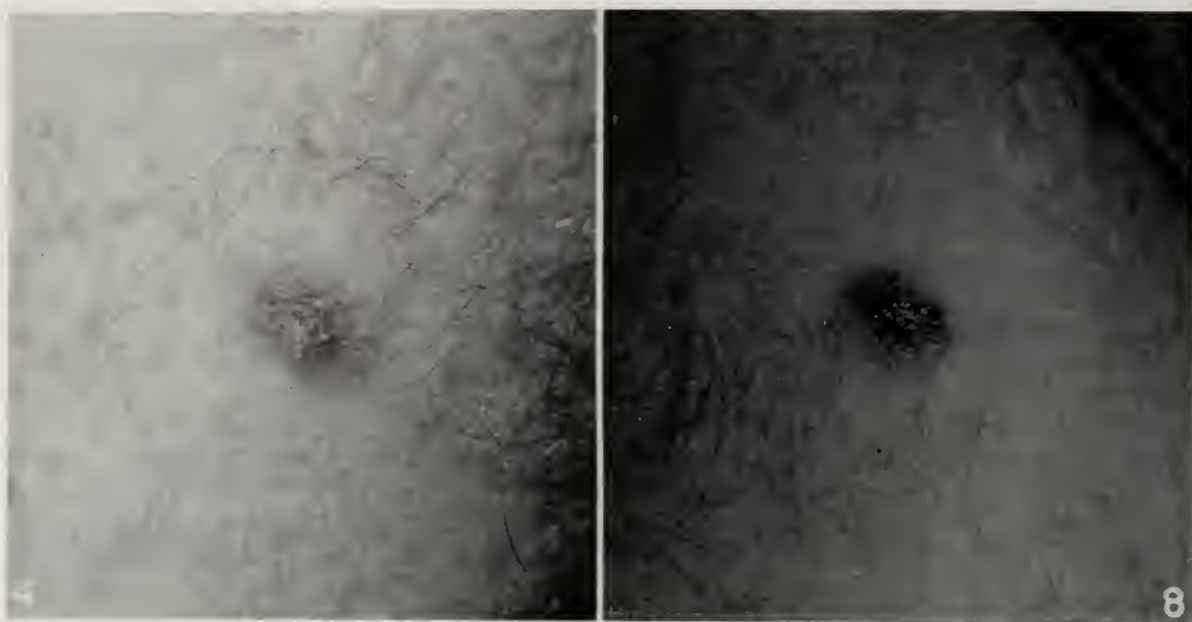
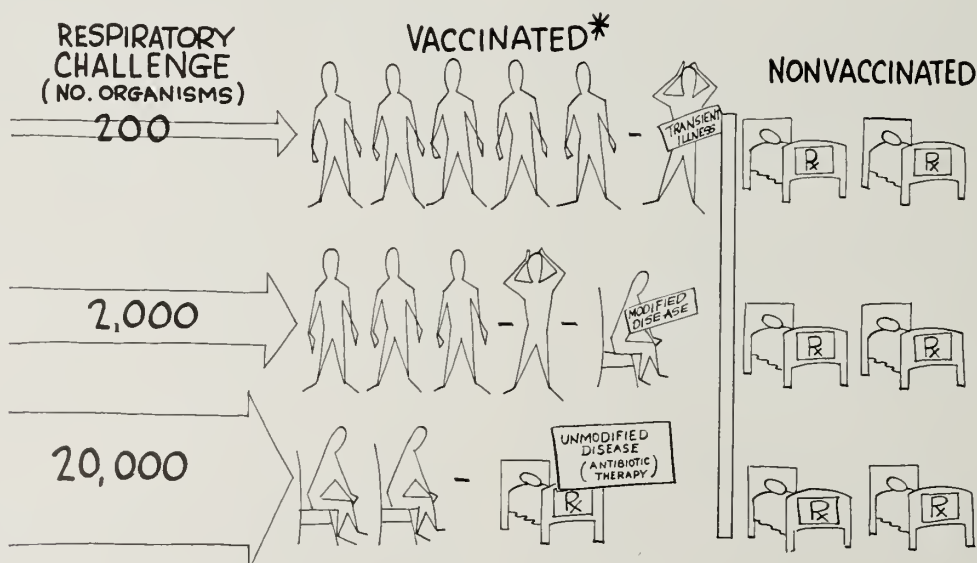


FIG. 1. Inoculation site 4 and 8 days after administration of live tularemia vaccine to man by acupuncture.

and required antibiotic therapy. However, a majority of the vaccinees exposed to 200 or 2,000 organisms escaped clinical illness. Results are summarized in figure 2, which has been provided by Dr. McCrumb. Patients with hands on head represent vaccinees with transient illness not requiring therapy. Seated patients are those with greatly modified disease not requiring therapy. The vaccinee in the group challenged with 20,000 organisms and depicted in bed had unmodified

disease comparable to that in the nonvaccinated controls except that he responded to a single short course of chloramphenicol without subsequent relapse; all of the nonvaccinated participants in this study responded to therapy but relapsed before complete recovery.

Few vaccinees have ever been subjected to tests this severe, and it is evident that live tularemia vaccine is a particularly potent immunizing agent for man. Only a single inoculation is re-



*Live tularemia vaccine

FIG. 2. Illness after respiratory challenge with strain SCHU S4

quired, in contrast to the several-dose schedule used for the killed product.

These findings indicated that live tularemia vaccine was innocuous for man and afforded substantial protection against respiratory challenge. In June 1959 use of the live vaccine was begun for Fort Detrick personnel who were considered subject to occupational risk of laboratory infection. More than 5,000 persons at Fort Detrick and elsewhere have now been given this biologic. No lost time has resulted from the vaccination procedure. Prior to introduction of live vaccine 10 to 12 individuals per year at Fort Detrick became clinically ill with tularemia. Other conditions remaining essentially unchanged, laboratory-acquired tularemia requiring hospitalization of patients disappeared. Should experience indicate that revaccination is desirable, results of limited trials conducted by P. J. Kadull, M.D.,¹² Fort Detrick, Md., suggest that it may be accomplished with less reaction than occurred initially.

In an effort to enhance the immunity provided by live tularemia vaccine, aerogenic vaccination was employed and evaluated. We found that at useful doses this route of vaccination was not associated with untoward reactions, and only a mild, nongranulomatous response was observed in the respiratory bronchioles of monkeys that received aerosolized liquid vaccine. Animals so vaccinated evidenced excellent protection when challenged with virulent organisms.

Because monkeys are less resistant to tularemia than are humans, their benign response to aerosolized liquid LVS tularemia vaccine indicated that this vaccine might also be safe for man when administered aerogenically. Initial studies in volunteers under the direction of Colonel W. D. Tigertt indicated that respiratory doses ranging from 200 to 20,000 organisms were innocuous.¹⁰ Approximately 1,500 inhaled cells were required to induce serologic conversion consistently. We later found that massive doses of 10⁶ to 10⁸ organisms were associated with a systemic reaction consisting of headache, coryza, chest pain, and malaise. In general, the reaction can be likened to a "flu-like" syndrome; 3 of 42 men receiving the huge dose of 10⁸ organisms were treated with streptomycin. However, the condition did not incapacitate the majority of volunteers, and they were able to continue their routine duties. Similar but milder reactions were seen in most volunteers inhaling 10⁶ cells of LVS, but none was treated.¹³

Our subsequent studies established the significance of the method of vaccination of volunteers in relation to resistance to a formidable respira-

tory challenge, approximately 25,000 organisms of a highly virulent strain of *P. tularensis* (table 4). Three groups had been vaccinated 6 months

TABLE 4: Relationship of Route and Dose of LVS Vaccine to Resistance to Tularemia Aerosol Challenge

Vaccine Dose	Route	Vaccinees Challenged via the Respiratory Route*	Number (%) with Fever >100°F	Per cent Requiring Therapy	Per cent Protection†
10 ⁸	Respiratory	30	18 (60)	0	100
10 ⁶	Respiratory	16	10 (62)	0	100
10 ⁴	Respiratory	56	43 (77)	41	59
	Dermal‡	46	29 (63)	46	54
	None	47	44 (94)	89	

* Mean incubation period: volunteers vaccinated aerogenically or by acupuncture, approximately 4 days; controls, approximately 3 days.

† Uncorrected with respect to control data.

‡ Acupuncture technique.

previously with 10⁸, 10⁶, or 10⁴ organisms via the respiratory route, and 1 group had been vaccinated dermally. The incidence of infection was equivalent in all 4 groups of vaccinees (60–77 per cent had an oral temperature of 100° F or greater), but disease characteristics were less severe in vaccinees immunized aerogenically with 10⁶ or 10⁸ organisms. None of the individuals in the latter 2 groups required therapy, in contrast to 41 per cent of the group vaccinated aerogenically with 10⁴ organisms and 46 per cent of the group vaccinated by acupuncture; 89 per cent of the controls required treatment. Streptomycin therapy was administered when an oral temperature of 103°F or greater was sustained for 24 hours.

A potential for mass aerogenic vaccination of man with live vaccine, particularly the military, is indicated by this study as well as by reports of Aleksandrov and his colleagues¹⁴ in the Soviet Union. Acceptability of aerosolized vaccine is questionable in people with chronic lung disease, congestive heart failure, or other diseases affecting the integrity of respiratory defense mechanisms. Perhaps small doses of aerosolized live vaccine could be tolerated in such patients, but sufficient evidence bearing on this point is unavailable.

These studies validate the respiratory route as a means of introducing an attenuated bacterium into the human host. It remains to be determined whether this route is more advantageous than the conventional dermal route.

Very recently Drs. Hornick, Tulis and I¹⁵ began an evaluation of reactivity and immunity subsequent to administration of live vaccine orally.

Fourteen monkeys were fed 10^8 live organisms of strain LVS in milk, and 7 monkeys were administered strain LVS dermally by acupuncture. Both the oral and the dermal inocula of LVS proved innocuous. An agglutinin response was obtained in all vaccinees. Approximately 10 weeks after vaccination these animals and a group of 7 unvaccinated controls inhaled 10^4 organisms of strain SCHU S4 (table 5). All animals became infected, but 64

TABLE 5: Oral Immunogenicity of *Pasteurella tularensis* LVS for the Monkey

Vaccine Strain	Route	Vaccinees Challenged*	Animals Showing Disease				Survival, per cent
			Mild	Moderate	Severe	Fatal	
LVS	Dermal	7	3	2	0	2	71
LVS	Oral	14	6	3	0	5	64
None		7	0	0	1	6	14

* 10^4 cells of strain SCHU S4 via the respiratory route.

to 71 per cent of the vaccinees survived in contrast to 14 per cent of the controls. These studies indicated a potential for oral immunization with live tularemia vaccine prepared from strain LVS. A preliminary study of oral live strain LVS tularemia vaccine in volunteers has been made and the results are encouraging.

Live tularemia vaccine for dermal administration prepared from strain LVS is designated as an investigational biologic and has been produced commercially for the U. S. Army. Under certain conditions its release can be made by the Commanding Officer, U. S. Army Medical Unit, Fort Detrick, Md. We have provided various research organizations here and abroad, including the U. S. Public Health Service, with live tularemia vaccine for the immunization of personnel. Should anyone be interested in using this biologic, this can be arranged. No other tularemia vaccine, killed or live, produced in this country is currently available for use in man.

References

1. KADULL, P. J., REAMES, H. R., CORIELL, L. L., AND FOSHAY, L.: J. Immun., 1950, **65**, 425.
2. SASLAW, S., AND OTHERS: Arch. Intern. Med. (Chicago), 1961, **107**, 689.
3. SASLAW, S., AND OTHERS: Ibid., 1961, **107**, 702.
4. EIGELSBACH, H. T., BRAUN, W., AND HERRING, R. D.: J. Infect. Dis., 1952, **91**, 86.
5. EIGELSBACH, H. T., DOWNS, C. M., AND HERRING, R. D.: Comparative immunogenicity of live and killed tularemia vaccines for the mouse and the guinea pig. Bact. Proc., 1958, p. 74.

6. OLSUF'EV, N. G., editor: Effectiveness of Vaccination against Tularemia (monograph). Moskva: Izdatel'stvo Akad. Med. Nauk SSSR, 1953.
7. SIL'CHENKO, V. S.: Zh. Mikrobiol., 1955, **10**, 83.
8. Public Health Service Monograph 50, Series 92, 1956 (PHS Publ. No. 536).
9. EIGELSBACH, H. T., AND DOWNS, C. M.: J. Immun., 1961, **87**, 415.
10. EIGELSBACH, H. T., TIGERTT, W. D., SASLAW, S., AND McCRUMB, F. R., JR.: Proc. 1962 Army Science Conference, U. S. Army Military Academy, West Point, N. Y., 1962, **1**, 235.
11. McCRUMB, F. R., JR.: Bact. Rev., 1961, **25**, 262.
12. KADULL, P. J.: Personal communication, 1966.
13. HORNICK, R. B., AND EIGELSBACH, H. T.: Bact. Rev., 1966, **30**, 532.
14. ALEKSANDROV, N. I., AND OTHERS: Voennomed. Zh., 1958, **12**, 34.
15. EIGELSBACH, H. T., TULIS, J. J., AND HORNICK, R. B.: Oral live tularemia vaccine. Bact. Proc., 1966, p. 45.

Psychosomatic Medicine—Goshen et al

(Continued from page 281)

reader must choose for himself which does the job of effectively attacking the other. The reader might keep in mind when he makes his choice that Dr. Chodoff relies only on citations from the literature to support his arguments, a literature which the article claims to be full of distortions.

Dr. Rubin's discussion presents a naïve interpretation of psychologic problems at the symptomatic level, apparently not appreciating the fact that the "fear, anger, or tension" mentioned in the article are merely simpler ways of saying "anxiety, depression, and other neurotic and psychotic states." His proposed classification scheme would be no improvement over traditional schemes, because it determines its categories by what is now known (or hypothesized), which allows no room for new knowledge. The article proposes, instead, a scheme which not only allows for a logical classification of new knowledge but also points the way toward finding it.

Dr. Cairo comments on a point which the article failed to clarify. The author meant "adrenergic response" to be not solely the immediate effects of adrenalin secretion but the total body state (including muscle tension mediated by peripheral nerves) when the person is in an emotionally excited condition (fear, anger, etc.). Actually, the same state can probably be produced by prolonged but intense pleasant emotions, and perhaps we do not often enough recognize this possibility because pleasant emotions do not seem so prevalent or long-lasting, or perhaps we psychiatrists just do not see enough happy people.

Benign Primary Hemangioma of the Right Atrium of the Heart

Report of a Case

GIORGIO BAROLDI, M.D.*, F. COLOMBO, M.D.†, AND WILLIAM C. MANION, M.D.‡

TUMORS OF THE HEART are rarely encountered in clinical practice. The hemangioma is a particularly rare tumor, there being only about 50 cases reported in the world literature.^{1, 2, 3} Most hemangiomas of the heart are incidental findings at autopsy. A few cases, however, have been associated with clinical symptoms, occasionally presenting as a hemorrhagic pericardial effusion. On rare occasions this tumor may be the cause of sudden death from cardiac tamponade. The recent developments in cardiology, particularly

Report of Case

A 24-year-old man whose family history was negative was a consumer of large amounts of alcoholic beverages until 20 years of age. He had had an epileptic attack with loss of consciousness at 4 years of age, as well as comatose episodes once or twice every year since the age of 17. He was admitted to the University of Milan with the chief complaints of malleolar edema, ascites, hepatomegaly, and splenomegaly of 1 year's duration. Constrictive pericarditis had been suspected but was not confirmed by exploratory thoracotomy. At this

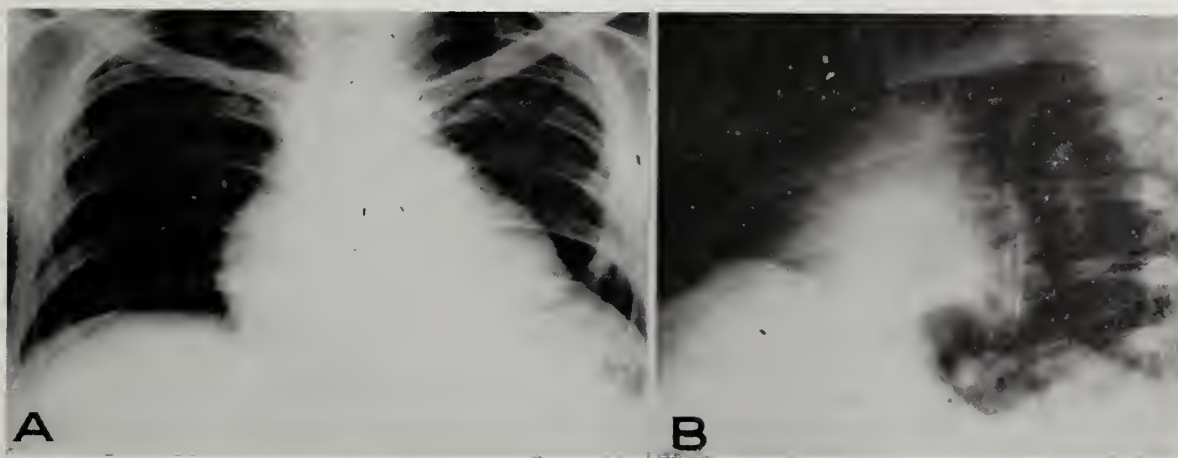


FIG. 1. A. Plain X-ray film of chest. B. Tomogram

angiocardiography, have made possible the recognition of intracavitary cardiac masses with increasing frequency. Most of the reported intracavitary tumors are myxomas, although other types of tumors such as lipomas, fibromas, and various forms of sarcoma may occur.

The occurrence of a benign primary hemangioma presenting as an intracavitary cardiac mass is an unusual finding, and we therefore feel that our case is worthy of a report.

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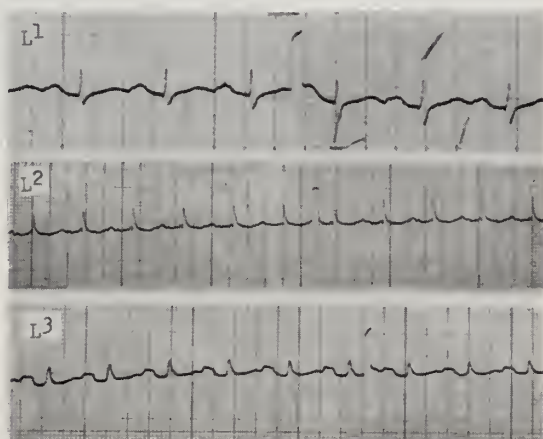


FIG. 2. Electrocardiogram at time of last surgical intervention, showing a rate of 107 with sinus rhythm, low voltage, and right axis deviation.

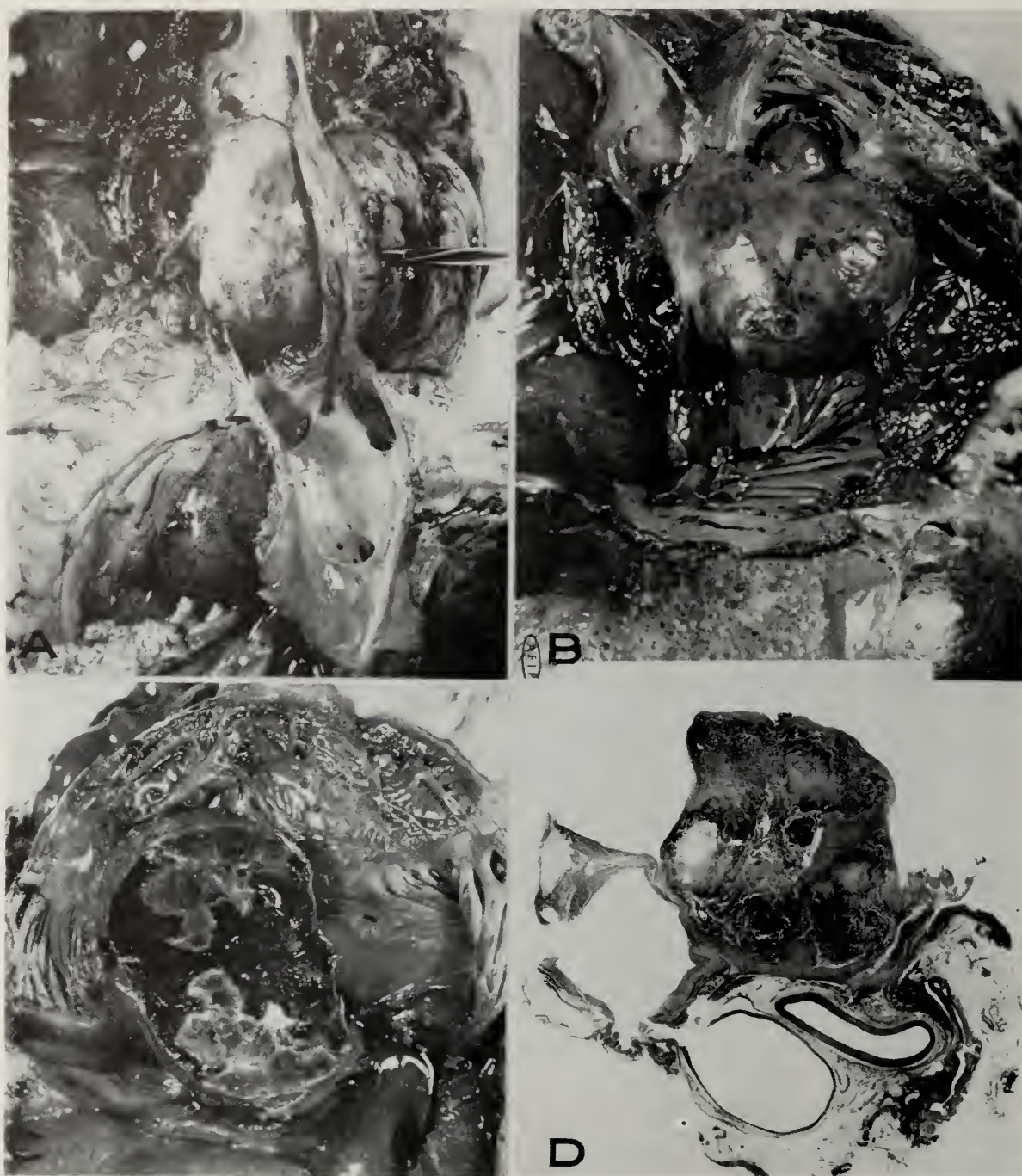


FIG. 3. A. Posterior surface of heart, with the right atrium opened along a line joining the 2 venae cavae to show interatrial tumor mass. B. Right atrial cavity filled by tumoral mass. C. Cut surface of tumor in situ. D. Transverse section of tumor, interatrial septum, aorta, and pulmonary artery.

time there were no signs indicative of a cardiac tumor. After a few months, however, because of aggravation of the symptoms the patient was hospitalized in the medical clinic of the University of Milan, where a right cardiac mass was discovered by tomography (figure 1-B). A second thoracotomy was performed, and the right atrium was found to be dilated. Through the very thin atrial wall it was possible to palpate a hard mass that apparently filled the atrial cavity. Because of the

patient's poor clinical condition, however, surgical removal of the tumor was not attempted, and he died a few days later of cardiac insufficiency. An electrocardiogram at the time of the last surgical intervention showed a rate of 107 with sinus rhythm, low voltage, and right-axis deviation (figure 2). Just prior to death the heart sounds were pure but feeble and distant.

Autopsy findings. The main autopsy findings were limited to the heart and liver. The heart weighed 350

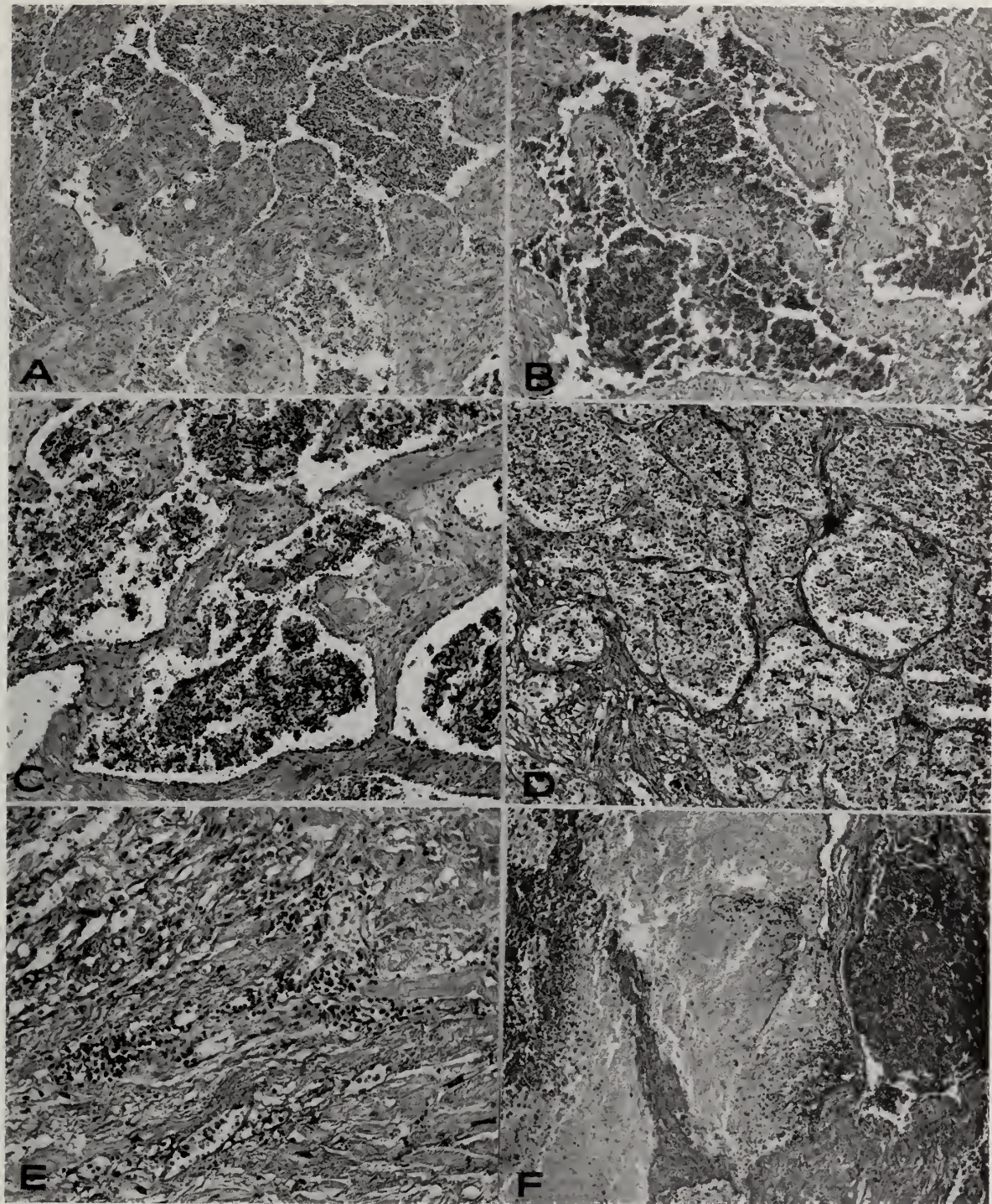


FIG. 4. Sections from various areas of tumor showing variation in size of vascular spaces and intervening stroma. The endothelial lining is clearly visible, and the elastic component of the septum is shown in D.

Gm. and was flabby. The right atrium was dilated by a hard tumor mass that completely filled the cavity (figure 3-A, B, C, D). The firm, polypoid, elastic mass, which measured 6 cm. in diameter, arose from the atrial septum in the region of the fossa ovalis from a large base (4.5 cm.) that extended posteriorly and superiorly to the orifices of the venae cavae, anteriorly

to the opening of the right atrial appendage, and inferiorly to a point 1 cm. above the annulus of the normal tricuspid valve. The coronary sinus was patent but collapsed. The tumor was covered by a thickened, glistening membrane, apparently endocardium, that adhered to the atrial wall in one small area. The cut surface of the tumor mass had a variegated appearance

with variable-sized, dark red and whitish-yellow areas separated by spongy gray trabeculae. On gross examination the tumor did not appear to have infiltrated the muscular septal wall. The cavity of the right ventricle and the pulmonary conus were dilated. The pulmonary valve was normal. The right ventricular wall measured 2 mm. in thickness. The left atrial and ventricular cavities were dilated; the left ventricular wall measured 1.1 cm. in thickness. The mitral and aortic valves were normal in appearance. The coronary arteries had a normal distribution and were free from pathologic alterations. The cardiac veins were congested.

The liver weighed 1,260 Gm. Its capsule was focally thickened, and on its surface there were many scattered dark red areas. These lesions, varying in both size and shape, were also observed on the cut surface of the liver and were irregularly distributed throughout the liver parenchyma. The cut surface of the liver showed congestion. Congestion of the other viscera was also noted. The central nervous system was not remarkable.

Histologic findings. Histologic examination revealed the cardiac tumor mass to be composed principally of large, congested vascular spaces lined by endothelium (figure 4). The vascular spaces varied in size and were separated by variable-sized septa, some consisting of only a thin layer of connective tissue (figure 4-D) and others of thick, fibrous bands (figure 4-A, B, C). Large portions of the tumor, especially in the central zone, were acutely necrotic, and some of the vascular spaces contained fresh thrombi (figure 4-A); the vascular structure in these infarcted areas was still recognizable, however, and was similar in makeup to the non-necrotic portion of the tumor. At the site of implanta-

tion the neoplasm was separated from the muscular portion of the atrial septum by a thin, fibrous membrane. The endothelial surface of the atrium was reflected over the external surface of the tumor, where it became thicker and showed an increase in elastic fibers.

The histologic diagnosis was primary benign hemangioma of the right atrium of the heart (interatrial septum).

The histologic section of the liver showed severe congestion with marked dilatation of the blood vascular spaces. Most of the red areas seen in the capsular surface appeared to be dilated, congested blood vessels, but some appeared to be small angiomatous formations.

The histologic diagnosis was disseminated hemangiomata, with extreme congestion of the liver.

Summary

A case of a benign interatrial septal angioma of the right atrium occurring in a 24-year-old man, associated with multiple angiomata of the liver, has been presented. Angiomas must be considered in the differential diagnosis of intracavitary tumors.

References

1. REINER, L., AND SILBERG, N. R.: Studies on hamartomas. I. Cavernous hemangioma of the epicardium. *Amer. J. Path.*, 1953, **29**, 1133.
2. UMEHARA, Y.: Hemangiomas of the heart and pulmonary artery surface; a case report. *Acta Path. Jap.*, 1959, **9**, 821.
3. PEYCHL, L.: Kavernöses Herzhamangiom. *Zbl. Allg. Path.*, 1964, **105**, 365.

What About Slander, Libel, and Breach of Promise?

MAURICE H. HERZMARK, M.D.*

HAVE YOU EVER been sued for slander, libel, or breach of promise? You can be, you know, and for statements that are truthful, reasonable, and well-intentioned. It is not necessarily what you have said or published but the interpretation given to it that leads to desire for legal redress. It is surprising how innocently a physician may become involved in such matters; and what is more, professional liability insurance does not cover any of these legal threats. No one is immune, not even members of Congress.

Slander

An incident occurred early in my career as a specialist that is illustrative of the way in which an accusation of slander was leveled against me by a referring physician, when, in fact, his professional judgment or treatment was never even discussed with his patient. Here is how it happened. A prominent internist referred a patient to me because of persistent pain and swelling of an ankle she had wrenched about 10 days prior to her visit to my office. The day following the injury she had consulted this physician, who, upon seeing no discoloration, swelling, or feeling no crepitus, regarded the condition as a mild sprain, and so taped the joint and applied an elastic bandage. When I examined the ankle I found marked tenderness over the lateral malleolus, complaints of pain on the slightest motion, some swelling, and a little discoloration over the lateral side of the foot. X-ray films showed a small cortical fracture at the tip of the malleolus. Since adhesive tape strapping did not prevent pain I applied a plaster of paris cast from the base of the toes to just below the knee, incorporating a rubber walking-heel. When the plaster was dry the patient was able to walk with no complaint of pain. Before leaving she asked me a few questions:

"Doctor, why did you put a plaster cast on my leg?"

"To keep the ankle joint absolutely immobilized and so prevent pain," I replied.

"If a plaster cast had been put on my leg the day I first saw my doctor, would that have prevented the pain and swelling?" she then asked.

"Very likely," I answered.

She then left the office after being told when to return for removal of the cast. A letter of thanks and a complete report were sent to the referring physician the same day.

The following afternoon the internist called me and without any preliminaries angrily accused me of making derogatory remarks concerning his treatment of the patient he had referred to me. He told me that his patient had stormed into his office and accused him of improper treatment, pointing to the plaster cast and stating that I had told her that if the cast had been applied the day she first consulted him she would not have been subjected to the pain and swelling she endured for 10 days. Before I could utter a word of explanation the internist abruptly hung up.

Of course, I sent him a letter explaining what really took place and assuring him that I had the benefit of 10 days during which the symptoms made the diagnosis and treatment clear, and any criticism of him was furthest from my mind. He never quite forgave me; and if circumstances had caused his patient to sue him for malpractice I might have been faced with a suit by him for slander.

Since that incident I have carefully explained to patients that even an X-ray film may not reveal a fracture early when there has been no displacement of bone until healing begins and that various methods of treatment are equally successful according to the experience of the practitioner. I usually remind the patient that the practice of medicine is an art and that, as in all arts, skills and talents vary and that differences of method cannot be graded or degraded arbitrarily.

Libel

Since libel involves written or published statements, the average physician is not as likely to be involved as in accusations charging slander. Nevertheless, considering the tremendous amount

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of writing done by physicians and the variety of subjects discussed, care must be taken by the authors to avoid being charged with libel. Again, I wish to emphasize that it is not so much what is written as the effect it may have on the reader or the identification with or of some particular individual.

In September 1964 I published a paper in the *MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA* entitled "Torts and Retorts." This consisted of some experiences in court while acting as an expert medical witness. Although all the cases were real, the dialogue between the cross-examining attorney and myself was not taken directly from a transcript but as I remembered it. In one case, which involved a blow on the top of the head, it was stated on direct testimony that the patient was suffering from persistent headache. The defense attorney, wishing to show that headache is a subjective symptom and thus not discernible by the examining physician, thought he would emphasize this by pointing to his own head and asking me if I could tell whether he had a headache. To this query I replied that considering the circumstances in this case I was of the opinion that he did have a headache. This caused a burst of laughter in court, and he looked very unhappy. However, he pursued the matter by asking if I could tell for certain. To this I replied that judging by the distressed look on his face he appeared to have a headache (more laughter). The lawyer did not forget this incident.

Some months later he learned that he would have an opportunity to cross-examine me in another case. He probably thought this would give him an opportunity to have me identify him while under oath as the lawyer whom I ridiculed and so lay the foundation for a libel suit. Thus, to my surprise he began his cross-examination by showing me a photostatic copy of the paper entitled "Torts and Retorts" and asking me if I were the author. I replied in the affirmative. Then he read the part concerning the headache and asked if it were not true that he was the lawyer to whom I had referred in the article. I replied that his name had never been mentioned in any of my publications, but he persisted with other questions designed to get an admission of his identity. Finally I said, "If you think the shoe fits, wear it." The judge, noting he had not succeeded in getting any admissible evidence from me, directed him to proceed with the case at hand.

If the lawyer had succeeded in getting me to

identify him in a court, under oath, he would have probably brought suit for libel. One can avoid such suits by not mentioning names; or if the description is self-evident, let the reader draw his own conclusions.

Breach of Promise

We live in an age of warranty for so many things. Appliances, machinery, fabrics, even medicines are guaranteed. Builders guarantee to have their constructions completed within a certain time period. Thus, there is a tendency for patients to regard a physician's prognosis as to recovery from illness and the time it may take as a guarantee.

Since the human body is an animated machine governed by so many uncontrollable factors and no two are similar nor respond similarly to any form of therapy, one would think that no court of law would regard seriously any suit against a physician for breach of promise based on failure of the healing process to meet the estimated timetable of a prognosis. But to my surprise I have found that courts do, in fact, try such cases.

The following case is illustrative. Some time ago arrangements were being made by me to perform a boneplasty on the femur of a patient. He wanted to know how long he would be disabled. I informed him that it would be at least 6 months from the time of operation before he could expect to return to his regular occupation, which required long hours of standing. The following day he returned with his wife, and the question was again asked and the time estimate was repeated. He then explained that he would have to sell his business before he could undertake the procedure. This he did, and the operation was performed. The result was very satisfactory, but because of his restlessness his convalescence was not advantageous for healing; and thus recovery was prolonged beyond the 6-month period originally estimated.

He was, however, pleased with the result, and when he returned to work he began referring patients to my office. Concerning payment for medical services rendered him, he asked for and received a postponement of 1 year. Following this he paid no attention to my monthly statements; so on learning that he was about to have his home redecorated, I turned his account over to an attorney for collection. The response was immediate, with a counter-suit for breach of promise. His bill of complaint stated that whereas I had guaranteed that he would be able to return

(Continued on page 324)



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that 90% responded to Gantanol (sulfamethoxazole), with over one-half of these patients showing excellent relief of symptoms.^{1,2} Even in stubborn chronic G.U. infections, almost 60% of 450 patients improved on Gantanol (sulfamethoxazole), including many who had not responded to other antibacterials.¹⁻⁶

Generally uncomplicated therapy enhances the favorable clinical results... Of the total 686 patients from the studies cited,¹⁻⁶ only three discontinued therapy because of side effects. Most of the side effects reported (approximately 3%) were mild and included nausea and/or vomiting, skin rash, dizziness, headache, gastritis, generalized uneasiness and itching.¹⁻⁶

1. Peters, J. H.: *J. Urol.*, 87:747, 1962. 2. Draper, J. W., et al.: *South. M. J.*, 57:920, 1964. 3. Stewart, B. L.: *J. Urol.*, 87:491, 1962. 4. Hagstrom, R. S.: *Rocky Mountain M. J.*, 59:(2), 37, 1962. 5. Arnold, J. H.: *Clin. Med.*, 71:552, 1964. 6. Nelson, C. G.: *Colorado GP*, 3:(3), 2, 1961.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-John-

son syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

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Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

Dosage and Administration—In women: one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.

In men in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

Contraindications—Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precaution—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

Side Effects—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

Did Dorothy Larson show you her ankles in private? Now she shows them in public.

Your office examination would have confirmed that Mrs. Larson was up to her knees in edema. Her heart was beginning to fail. And her ankles had disappeared under an inch of salty water.

Along with digitalis, you might have prescribed Hygroton. To get rid of the edema. And to keep it from coming back. And you prescribe Hygroton the same way you usually prescribe digitalis: just once a day.

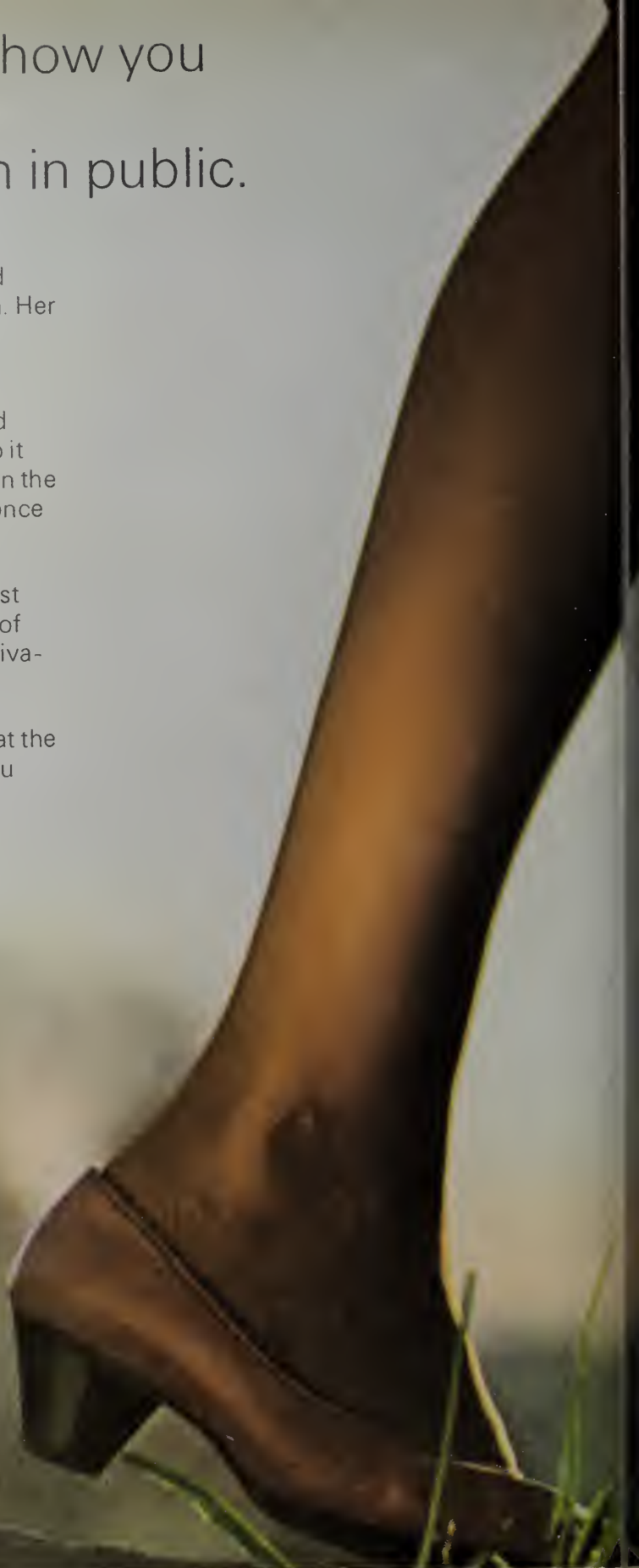
Tablet for tablet, Hygroton is just about the most effective diuretic going. And it costs a fraction of what Mrs. Larson would have to spend for equivalent therapy with short-acting diuretics.

In fact, Hygroton is an awfully nice way to treat the Mrs. Larsons in your practice. Just tell them you can get their ankles back at half price.

Indications: Hypertension and many types of edema involving retention of salt and water.
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Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
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Effects: Dizziness, weakness, nausea, vomiting,
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When her troubles began, Mrs. Larson thought they were the signs of the change of life. It's a change all right, but one you can treat. And you can count on Hygroton to help keep her in public instead of in the hospital.

See preceding pages for brief summary of prescribing information.



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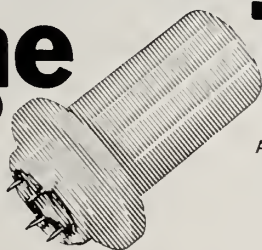
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PRESIDENT'S PAGE

GENERIC VERSUS TRADE NAME PRESCRIPTIONS

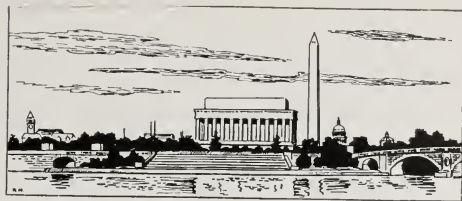


CONSIDERABLE DEBATE is current regarding the prescribing of drugs by generic or by trade name. Government agencies seem to favor regulatory legislation requiring generic name on all prescriptions. Manufacturers, as well as a considerable segment of the physician population, are opposed to Federal law in this regard. Valid arguments obtain on both sides, to be sure. Is it not probably true, however, that the most sensible solution is, in effect, a compromise?

The profession and the public have become oriented, for good reason, in this area as in all fields of merchandising to place faith in a given product because of established reliability of the manufacturer. The same attitude applies to automobiles, electric appliances, foodstuffs, clothing, and all the goods and services of our abundant American economy. A discourse on "what's in a name" is beyond the scope of this message, but it must be obvious that a great deal of our current existence is based on the recognition that the "name" does indeed guarantee a certain standard of quality. Major pharmaceutical companies have contributed enormously to research in the drug field to develop products of sustained high quality. It seems to me that the physician should not be denied the right to specify which proprietary drug he desires to use in the treatment of an ailment of a given patient. All patients do not react or respond to the same drug in the same way.

Volume purchase of drugs by generic designation may promote economy in hospital or clinic operations. This practice, however, may not be to the best interest of every patient but it could make a less costly drug available to the physician when it does fit the patient's needs. In institutions where the practice is in effect, it should be by and with the assent of the medical staffs and not by Federal regulation. Requiring generic name prescription of all drugs, to my mind, is unjustified, unnecessary, and a further encroachment of Government in the practice of medicine.

Henry D. Eckert



EDITORIALS

A Comprehensive Health Care Program for Children

EARLY IN JANUARY of this year Children's Hospital became the twenty-seventh recipient of a grant from the U. S. Children's Bureau to provide comprehensive health care to a group of children from low-income families. The initial award was \$1,700,000 for the first 18-month period.

Much of the impetus for this new grant program came from a report to the President, late in 1964, which highlighted the large number of unmet health needs of school-age children or those children preparing to enter school. This report called attention to the significant excess of chronic illness in children from low-income families, their lack of continuing health supervision, and the insufficient and inadequate medical resources for care.

Public health workers long have been aware of problems of providing adequate medical care for this group. These families often must travel long distances for care, and they frequently miss appointments when it is not possible to make satisfactory arrangements for supervision of children remaining at home. Those parents sincerely interested in meeting the health needs of their children soon become discouraged at the long waiting times for initial appointments, the crowded and uncomfortable waiting rooms, and the delay in being examined, which may stretch from 3 to 4 hours.

Some families do not bring their children for examination because restrictive eligibility for payment for medical care from public funds often sets up an insurmountable financial barrier. Other parents do not appreciate the importance of carrying out treatment plans. Many studies have shown that, even when a physical defect is known to the family, less than half these children receive needed medical care. Often this is due to inadequate

explanation and follow-up provided by a harried physician or nurse overwhelmed by a large and ever-growing case load. The cumulative effect of these deficiencies in providing adequate health care in this child population is a significant backlog of untreated illness.

Other factors seem certain to accentuate this trend. The flight to the suburbs of middle-class families has been accompanied by a corresponding movement of unskilled people from Southern rural areas into central areas of cities. Increasingly, the resident population of cities is made up of low-income families, a high proportion of which are Negro. This puts additional strain on the health facilities to which these families go for care, primarily hospital outpatient clinics. Hospital emergency rooms are busy around the clock providing episodic treatment for acute illness. Chronic health problems go undetected and uncorrected. The large area of preventive health services is completely neglected.

The new program at Children's Hospital is designed to correct some of these deficiencies. First, total health care will be provided children from a specific geographical area. Thus, restrictions will be placed on the number of children served rather than on the type of services provided. The area designated in the grant to Children's Hospital is statistical Area No. 6, in the lower Cardozo area. It is estimated that something over 14,000 children under 17 years of age reside in this area, of which 5,000 plus are pre-school children. The program available to all children will include case-finding, screening for defects, diagnosis, and prevention. The project will provide for treatment, correction of defects, and aftercare of all conditions discovered—medical and dental, physical and emotional—for children

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from families unable to afford the cost of this care.

Under the Children's Hospital program patient care not only will be broadened, but teams of medical, dental, nursing, psychiatric, psychologic, and community health workers will attempt to reach children not receiving medical attention.

The program is intended to complement other comprehensive health care projects now in the planning stage by the D. C. Health Department. It also will coordinate with and utilize to the extent possible other local health, education and welfare programs.

The desire to serve more fully the children of Washington, especially those in need, has been traditional at Children's Hospital for nearly 100 years. With the new program we hope to establish continuity of health supervision for all children in the project area. Our concern will be that each child is visualized as a whole person in the context of his family and community.

J. WILLIAM OBERMAN, M.D.

Medical Director, Comprehensive Health Care Program, Children's Hospital of the District of Columbia

To Correct an Inequity in Charges Made to Hospitalized Patients

FOR MANY YEARS the charges for clinical pathology services in hospitals have exceeded the cost of those services. This has been generally true throughout the country. Contrary to the opinions of some, this "profit" has not gone into the pathologist's pocket but has been used to meet the costs of certain nonincome-producing departments and services in the hospital. Thus when personnel costs in the record room or in maintenance have risen, the cost has been recovered sometimes by increasing the "room rate," at other times by increasing the charge for 1 or more laboratory tests. The practice hasn't hurt the patient, because the overall charge is no greater whether the hospital's costs are collected under one item of the bill or another. Pathologists generally have disliked the arrangement, however, since it is often misunderstood and tends to work a hardship on the outpatient paying for laboratory service.

It seems likely that this inequity will finally be straightened out as a result of the application of the Medicare Law. This law provides that the charge for each service to Medicare patients be based upon the actual and current cost of the service as rendered.

The Section on Pathology and Laboratory Medicine of the Medical Society of the District of Columbia has voted unanimously to move as rapidly as possible to the adoption of a cost-based fee schedule for clinical pathology services in the hospitals of the Washington area.

Clinical pathology charges cannot be reduced on all hospitalized patients without corresponding increases in hospital charges, however, because the resulting loss in income would put the hospitals in a serious financial plight. Yet it would be completely untenable to have one schedule of charges for Medicare patients and another for all other patients.

To change the clinical pathology fee schedule and the hospital rate schedule is somewhat more complicated than it sounds. It will require that each hospital renegotiate its basic rate structure with Group Hospitalization and that the Medical Service fee schedule be modified extensively as it applies to clinical pathology. Since the charges for basic hospital care will go up significantly as a result of this change, it may quite possibly necessitate an increase in premium rates under Group Hospitalization. The cost of clinical pathology benefits will fall correspondingly, and this may justify a reduction in premium rates under Medical Service contracts.

Thus a schedule of charges that has gotten out of balance over the years as a result of using an easy "system" to cover the increasing cost of various hospital services may finally be brought back into balance because of the necessity of compliance with the Medicare Law. With this reduction in charges, the bargain value and true worth of the dollar spent for clinical pathology services in the hospital will at last be evident.

T. M. P.

The Mundell Board Room

ON SUNDAY, MARCH 12, the Joseph J. Mundell Board Room of the Medical Society of the District of Columbia was officially dedicated in memory of Dr. Joseph J. Mundell by his family and friends. Among those present for the unveiling of his portrait, which is now a part of the Board Room, were his widow, Mrs. Anne Swart Mundell, and his children: Mrs. Mary Catherine Mundell Coffey, wife of Dr. Robert J. Coffey; Mrs. Anne Mundell Creed, of Chicago; the Rev. Joseph J. Mundell, Jr., of the Church of the Immaculate Conception, in the Cardozo area; and the Rev. James W. Mundell, a member of the Maryknoll Order, who has just returned from Chile, where he founded a mission for the Mapuche Indians, and was recently awarded the Bernardo O'Higgins medal by the Chilean Government. Also present were the last member of Dr. Mundell's immediate family, his sister, Miss Mabel Mundell; a nephew, Dr. Benjamin J. Mundell, and Mrs. Mundell; Dr. John C. Rose, Dean of Georgetown School of Medicine, and Mrs. Rose; and Portrait Artist Bjorn Egeli, who has painted the portraits of many Washington physicians, and Mrs. Egeli. Many other old and young relatives and friends of

the Mundell family enjoyed the late afternoon cocktail buffet in the Doctors Lounge.

Dr. Henry D. Ecker, President of the Medical Society of the District of Columbia, opened the brief ceremonies in the Board Room, which is located on the third floor of the Medical Society's new building. He recalled that his uncle, Dr. Lewis C. Ecker, was a friend and contemporary of Dr. Mundell. He called on Dr. Coffey, immediate Past President of the Society, to speak for the Mundell family.

Dr. Mundell opened his practice in 1906 as a general practitioner. A graduate in medicine (1903) of Georgetown University, he became, in 1934, Head of its Department of Obstetrics. His teaching career at Georgetown concurred with his long service in the Navy, which began in 1916 when he was appointed Chief of the Obstetric and Gynecological Section of the Naval Dispensary. He retired from the Navy in 1946, with the rank of Captain, but continued as consultant to the Naval Hospital in Bethesda until his death in 1959. He was proud of his nephew, Benjamin, who chose the same career and specialty as his own and was associated with him in practice.



ADMIRING THE HANDSOME PORTRAIT in the Mundell Board Room following its unveiling are members of the Mundell family (left to right): Mrs. Robert J. Coffey, Dr. Coffey, Mrs. Anne Creed, Rev. James W. Mundell, Rev. Joseph J. Mundell, and Mrs. Joseph J. Mundell. At her right is Dr. Henry D. Ecker, President of the Medical Society.



She simply sits while the party goes on around her, already used to being the girl who is left out. She tries to lose weight—but her emotions won't let her. She becomes irritable and depressed when she doesn't eat, and anxious when she considers her future. So each time she gives up.

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Dr. Mundell was a man beloved by his family, patients, and colleagues, and he himself loved people, his practice and teaching. The Medical Society and its affairs were always important to him. It is fitting that his portrait, a handsome one, should grace a room in the new building.

Dr. Coffey, in behalf of the family, expressed special thanks to the Georgetown Clinical Society, particularly to the members of its "Old Timers Club," who helped make possible the gift to the Society of the furnishings of the Board Room and the portrait.

A.L.E.

Health Dept. Notes

Foot Problems

WITH THE EXCEPTION of the common cold and dental decay probably no human ailment is more prevalent than that concerned with feet. Scores of studies in widely scattered sections of the Nation all point up the same fact—7 out of 10 adults suffer with painful feet at some time in their lives.

Many foot problems begin at an early age but often go unrecognized. It is estimated that 40 per cent of the Nation's children by age 6 develop some type of foot disorder, an appreciable handicap in the estimated 65,000 miles of walking in the life of an average individual.

The need for early diagnosis and treatment of foot ailments is illustrated by statistics on the first draftees in World War II. In this group of young men 32 out of each 100 rejections were due to some type of foot ailment.

It is estimated that American industry loses 125 million dollars each year in absenteeism, production loss, and plant accidents because of foot ailments.

The importance of foot care has long been recognized by the medical profession throughout the country. During January, 1964 full-time podiatry clinics were established by the D. C. Department of Public Health. These are located at the Northwest Central Clinic at 1325 Upshur Street, N.W., and the Southwest Health Center, Delaware Avenue and Eye Street, S.W.

The demand for service in the podiatry clinics during the past 2 years has been encouraging. This is reflected in the following tabulation:

	1965	1966
Number of new patients	277	495
Number of visits	1,377	3,400

Thirty-five per cent of the patients are male. Of all patients seen to date 49 per cent were under age 60, and of that number 18 per cent were under age 18. Of the 277 new patients in 1965, 266 are still under care; only 11 patients have been discharged.

The major sources of referral are the D. C. Department of Public Welfare, adult health clinics in public housing projects, other Health Department programs, outpatient clinics of local hospitals, local physicians, and podiatrists.

In order to be eligible for podiatry services patients must be on medical or public assistance, or they must reside in a public housing project.

At the present time the D.C. Department of Public Health employs 14 part-time podiatrists. They are serving at the 2 regular podiatry clinics, in the Home Care and Nursing Home Improvement projects, and in the outpatient departments of D.C. General and Glenn Dale Hospitals.

In the face of the Nation's foot problems our goal is prevention. Emphasis is placed on detection of foot problems at an early age when treatment may be simpler and less expensive. For those persons who carry their foot disorders into their senior years, it is hoped that we can do whatever is possible to correct painful and disabling foot disorders.

MURRAY GRANT, M.D., D.P.H.
D.C. Director of Public Health

Patients Needed at Clinical Center

THE COÖPERATION OF PHYSICIANS is requested in a continuing study of calcium and phosphorus metabolism being conducted by the Metabolism Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Md.

Of interest for this study are patients with documented hypophosphatemia such as primary hyperparathyroidism, Fanconi's syndrome, and vitamin D-resistant rickets.

Patients for this study should be clinically stable, continent of urine and feces, and be willing to participate in metabolic balance studies during a 30-day admission to the Clinical Center

Physicians interested in having their patients considered for this study may write or telephone Dr. James M. Phang, Clinical Center, Room 3B-40, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 63097.

Continuing Medical Education and Training: A Function of the Regional Medical Program

IN THE MARCH ISSUE OF THE ANNALS the purposes and objectives of the Regional Medical Program were described. The primary purpose of the Regional Medical Program is to make more widely available to the patients of each Region and the Nation the latest advances in the diagnosis, treatment, and prevention of Heart Disease, Cancer, Stroke and Related Diseases. This is best accomplished by the establishment and maintenance of effective programs in continuing education and training and is stressed in both P.L. 89-239, which established the Regional Medical Programs, and in the Guidelines for these Regional Medical Programs as published by the Division of Regional Medical Programs, National Institutes of Health.

The short discussion which follows is published for the purpose of acquainting the physicians of the Metropolitan Washington Region with the advantages of a coordinated program of continuing education when developed and operated as a part of the Regional Medical Programs. Likewise it permits us to inform the physicians concerning a survey which is being conducted in the Region.

Coöperative effort is the keynote of the Regional Medical Programs and there is no better place for regional coöperative effort of the various medical schools, health institutions, and practicing physicians than in the conduct of programs in continuing education and training. The general benefits of continuing education after graduation from medical school and the completion of residency training need no emphasis or discussion. This is a fact accepted by the medical profession. It is important to point out at this time the additional advantages and benefits provided from effective programs conducted at the local or regional level.

1. *They provide a better opportunity for closer relationship between teacher and learner and a more active participation of the learner in the learning experience.* Excellent examples of such effective programs in this Region at present are the weekly cardiology programs conducted at Georgetown University Hospital on Thursday evenings and the weekly roentgenological programs conducted at Walter Reed General Hospital by the practicing radiologists in the Region.

2. *They provide for a method of conservation of manpower and time.* The human resources

(teachers) available for this purpose and the time they can devote are scarce. Coöperative effort can provide more appropriate utilization and conservation of these scarce resources of manpower and time. Likewise, the time which the practicing physician can spare for this purpose is limited and valuable. Better coöperation and coördination in the development of the programs to fill the needs of the physicians of the Region and better adapted to their time will permit better utilization of their time.

3. *They provide maximum convenience and accessibility for the physicians of the Region.* The time and place where programs are held are very important factors in attendance and therefore in their overall regional effectiveness. If an effort is made to determine the nature of the factors which influence effectiveness and if coöperative planning is obtained, the programs can be scheduled so as to provide maximum convenience and accessibility to the professional personnel for whom they are intended.

4. *They provide an effective means of tailoring the programs to meet the needs of the Region.* Without effective coöperation and coördination, there is often unnecessary duplication and repetition of unnecessary programs, utilizing regional resources which could be applied more effectively to urgent needs. Regional coöperation allows the establishment of priorities for regional needs.

5. *They provide an effective plan for continuity of programs.* The framework of the Regional Medical Programs provides an excellent opportunity for a program design which can achieve better continuity.

6. *They provide the best opportunity for linking education and patient care.* When the planning and conduct of programs occur at a local level, they can be directed toward the problems and the resources and facilities available in the area. A good example is the present programs of education and training relating to coronary care units and cardiac resuscitation as conducted by the Washington Heart Association.

To assist in the development and maintenance of programs in continuing education for the Metropolitan Washington Region, it becomes important to know the educational needs of the professional health personnel, to ascertain the health resources and needs of the Region and the

existing patterns of patient care. Surveys are being instituted by the Coördinator to identify these needs and to ascertain the resources. As discrepancies between needs and resources become apparent, coöperative efforts will be directed toward the development of educational methods and programs to meet these needs. A careful analysis of ongoing programs will be necessary to determine which are effective and should be kept or enlarged, which are ineffective and should be revised or dropped, and where new programs or innovations are necessary.

Each physician in the Region has now received a questionnaire which, if appropriately answered, will accomplish the following:

1. A summary of the present status of continuing education and training in the region.
2. The status of the individual physician as it pertains to his continuing education and training during the past 10-year period.
3. The existing pattern or patterns of continuing education and training for the Region.
4. Determine what techniques are presently used in the Region.
5. Identify factors which inhibit the effectiveness of present programs, such as time and place programs are conducted, the nonavailability of physician's time, unsuitability of programs, etc.
6. Identify which physicians or groups of physicians are most in need of continuing education and training.
7. Identify special areas in which deficiencies exist and areas requiring strengthening.
8. Determine which of the special categories of Heart, Cancer and Stroke is in most need of a program of continuing education.

Physicians are urged to give thought, time and prompt attention to this questionnaire. Completion of this form by the physician who has an excellent ongoing program may appear to be an unnecessary chore; however, his example and methods of accomplishment can be of help in assisting others less fortunate or ambitious. Information is most desired from those with inadequate programs or no programs, especially information about needs and problems. Full cooperation is urgently requested.

Additional questionnaires requesting similar information will follow at a later date in an effort to evaluate the effectiveness of the program established under the Regional Medical Program

after the initial survey. In this and other studies special attention will be given to evaluating the effectiveness of the present and established programs of continuing education and training in improving patient care. It should be kept in mind that the essential purpose of continuing education as well as that of the Regional Medical Program is to help bridge the gap between the advancing frontier of new scientific knowledge and the broad application to patient care.

THOMAS W. MATTINGLY, M.D.

*Coördinator, Regional Medical Program
of Metropolitan Washington*

Ethical Responsibilities in Prescribing Drugs and Devices*

IT IS UNETHICAL for a physician to be influenced in the prescribing of drugs or devices by his direct or indirect financial interest in a pharmaceutical firm or other supplier. It is immaterial whether the firm manufactures or repackages the products involved.

It is unethical for a physician to own stock or have a direct or indirect financial interest in a firm that uses its relationship with physician-stockholders as a means of inducing or influencing them to prescribe the firm's products. Practicing physicians should divest themselves of any financial interest in firms that use this form of sales promotion. Reputable firms rely upon quality and efficacy to sell their products under competitive circumstances and not upon appeal to physicians with financial involvements which might influence them in their prescribing.

Prescribing for patients involves more than the designation of drugs or devices which are most likely to prove efficacious in the treatment of a patient. The physician has an ethical responsibility to assure that high quality products will be dispensed to his patient. Obviously, the benefits of the physician's skill are diminished if the patient receives drugs or devices of inferior quality.

Inasmuch as the physician should also be mindful of the cost to his patients of drugs or devices he prescribes, he may properly discuss with patients both quality and cost.

* Adopted by the Judicial Council of the American Medical Association, March 12, 1967.

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Can the Art of Medicine Survive?

An Introduction to a MRH Program at the George Washington University School of Medicine

MILTON O. KEPLER, M.A. (RELIGION), M.D.*

THE KNOWLEDGE EXPLOSION of this century has not been an unmixed blessing, for it has created new problems as it has solved older ones. Thus, one of the major problems facing medical educators today is the selection of what to include in the standard 4-year medical curriculum. It is simply impossible to give more than a glimpse of some areas; others must be left out entirely. There just is not enough time for grounding a student in all branches of medical science. The traditional solution is that the new medical graduate pursues his special interests in the postgraduate years of internship and residency training, fellowships, etc. A newer trend has been to offer an increasing number of elective courses to the student, beginning with the second year of medical school. Many schools now offer a great number and variety of these electives. Now it is being proposed that students entering medical school choose one of several different courses of study, all leading to the M.D. degree.

This problem of providing adequate scientific training is serious enough, but there is a parallel problem reaching tragic proportions and implications: neglect of the teaching of the 'art' of medicine. We are accustomed to seeing the phrase "the art and science of medicine," but few of us any longer can appreciate what the art means—only science seems important. Scant attention has been paid to the teaching of the art in the average school of medicine. The most obvious reason for this deficiency is the squeeze on available time by the burgeoning medical sciences. In a proper balance of education other disciplines will be equally fundamental to the making of a physician; the art is one of them. Medical art is skill, tact, timing, empathy, compassion, concern—all these, and more, for the art represents the total personality of the physician as seen by the patient. Hippocrates noted 2500 years ago that "Where the love of man is, there also is love of the art."

One does not need to look far today to see medicine indicted on several counts of abandoning

its classic professional posture. The physician is often pictured as overly concerned for material success, but underconcerned for his patient. This apparent lack of concern seems to be a tender subject with the public. We may grant that the profession is here merely reflecting the values of our contemporary culture while equally agreeing that the profession should be much more. Medicine has a traditional concern for the patient as a whole person, a professional ethos that places service to others ahead of material gain, but this tradition is not largely apparent today.

There is some evidence to indicate that medical educators are now interested in restoring some of the lost art to medicine, and this includes an interest in the humanities and behavioral and social sciences. Religion is a part of this renewed interest, along with a study of the whole-person concept. Such a whole person is a complex being with physical, emotional, social, and religious needs who may become diseased from deprivation in any of these areas.

In recent years I have become increasingly impressed with the need for a restoration of these traditional and nonmaterial values in medicine and am now firmly committed to the idea that it is necessary to introduce the medical student to some of these concepts. Following postgraduate study in the field of religion, with emphasis on the broad area of ethics, I became involved in offering a new course in Medicine, Religion, and Healing at the George Washington University School of Medicine. "MRH," as we have called it, had a good initial reception as a sophomore elective, and it is hoped it will remain a permanent addition to the curriculum.

What does MRH offer? In this course I have introduced the student to the whole-man concept and have briefly surveyed the field of western ethics, particularly religious ethics as they have emerged from our Judaeo-Christian traditions. In several sessions authoritative representatives of the Jewish, Roman Catholic, and Protestant faiths have outlined the ethics of their respective religious affiliations and indicated how this affected the whole person's response in a medical context. Specific medicomoral problems were

* Clinical Instructor in Pediatrics, George Washington University School of Medicine, Washington, D. C. 20006.

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discussed, although an attempt was made to deal in general principles as much as possible. The role of religion and the clergy in the healing process was presented and discussed. Collaboration of the minister and doctor was encouraged as a means of benefiting the patient and enhancing professional competence. A film distributed by the American Medical Association, *The One Who Heals*, was shown and discussed at one session. This film demonstrated the ways in which physician and clergyman cooperate in the care of the patient and also how each profession made its own unique contribution to the needs of the patient. Irrespective of the approach, or the treatment given, God alone was shown as the source of all healing. This session also provided an opportunity for discussing the role and interest of the American Medical Association in the field of medicine and religion.

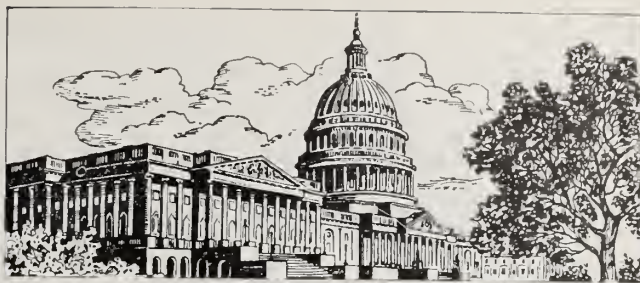
The remaining sessions were devoted to classroom discussion of related topics of interest and concern to the student. In lieu of a final examination the students elected to write a brief paper covering some problem area of their choice, supporting their views by reference to the literature or the material presented by our speakers. These papers were generally very good, reflecting both concern and critical thought on the part of the student.

At the end of the term, students were asked to complete an unsigned questionnaire in which they were asked to critically evaluate the course in terms of how well it met certain stated objectives and whether it had been of personal help or not. The response was overwhelmingly in favor of the value of the course in meeting a real need. Most importantly, the students spontaneously indicated that the course had made them more tolerant of the other person's religious beliefs and more aware and respectful of the rights of the patient and of his whole person.

As part of the effort to help determine the current status of ethicoreligious instruction in the medical schools of this country and Canada, questionnaires were sent to all of them. From the 68 per cent replying, it was apparent that there was considerable interest in the field generally but no consensus as to how such instruction should be offered. Several medical educators were critical of any formal instruction in MRH and said that such concepts could best be taught as an inherent part of the "total learning environment." In such an environment the faculty would constantly exhibit and mediate appropriate concepts and attitudes toward the patient and his care.

Such criticism impresses us as being more ideal than realistic, because there simply is no medical school today where such an educational milieu exists. Medical students and teachers alike usually reflect the values of our contemporary culture—values which are often in conflict with those we see as a part of MRH instruction. For instance, MRH emphasizes: (1) collaboration rather than competition and individualism, (2) the necessity of knowing the needs and rights of the patient rather than ego-gratification of the physician, and (3) concern and service to the patient as the primary goal of the profession rather than material gain. Until the time arrives when our society as a whole teaches that such values as these are desirable, beginning with the child and continuing, we feel that there will be a definite place for MRH instruction in a medical curriculum. We see this as an effective and logical first step for introducing the student to the concept of the whole person and his religious dimension in the light of the values that have been discussed. There are encouraging signs of concern among medical educators to see that this type of instruction be offered. This interest also includes possible exposure to other humanities and the behavioral sciences. One new medical school is planning such instruction as an integral part of its curriculum.

So, we can join with our critics in deerying the need for MRH instruction at such a relatively late date in the educational process, meanwhile firmly maintaining our position that this type of instruction will be necessary until such time as new medical students already possess the concepts and values we would emphasize. As of this writing, MRH remains an exciting and stimulating challenge because it is a vital part of the Art, and the Art must exist as a vital part of Medicine.



NEWS & PERSONALS

Summary of Executive Board Actions

Proceedings of February 27 Meeting

Dinner for the Board members was served at 7:00 p.m. in the Exhibit Hall of the Medical Society. Dr. Edward W. Nicklas, Vice Chairman, presided in the absence of Dr. Karl C. Corley, the Chairman. Present were Drs. Frank S. Bacon, C. Willard Camalier, Jr., Henry D. Ecker, Raymond T. Holden, Margaret M. Kendrick, William S. McCune, Paul R. Wilner, and Mr. George W. Cooley, Secretary. The meeting was called to order at 7:40 p.m.

The minutes of the January 23, 1967 meeting were approved as mailed.

Committee Meetings: The Secretary reported the following committees had met since the last meeting of the Board:

- | | |
|----------|--|
| January | 24 Grievance Committee |
| | 26 Traffic Committee |
| | 30 Ad Hoc Committee on Liaison with the Clergy |
| February | 1 Fee Review Committee |
| | 3 Ad Hoc Committee on Title XIX |
| | 6 Committee on Regional Medical Programs |
| | 7 Committee on Relative Value Study |
| | 8 Finance Committee |
| | 8 Committee on Ruffin and Other Bequest Funds |
| | 9 Committee on Environmental Health |
| | 9 Committee on Liaison with the Clergy |
| | 10 House Committee |
| | 13 Insurance Committee |
| | 13 Committee on Emergency Medical Service |
| | 14 Committee on Medicolegal Problems |
| | 15 Board of Credentials |
| | 16 Committee on Child Welfare |
| | 16 Conference on Health Planning under P.L. 89-749 |
| | 17 Editorial Board Dinner of the MEDICAL ANNALS |

- 21 Committee on Public Information and Education
- 21 Grievance Committee
- 23 Area Medical Society Representatives re Office of Dependents' Medical Care

Board of Credentials: The following actions were taken on recommendations made by the Board of Credentials:

Active Members

Henry Seth Anderson, 3300 Stanton Road, S.E.
 Mihaly Bartalos, Medical Genetics Unit, Howard University
 Frank A. Caprio, 1255 New Hampshire Avenue, N.W.
 Eustasio Pastor Farinas, 916 19th Street, N.W.
 Alexander L. Matas, 406 East Capitol Street
 Alfred M. Messore, Outpatient Clinic, Department of Health, Education, and Welfare
 Soonduk Park, Columbia Hospital for Women
 Alan Lee Pinkerson, 2121 Pennsylvania Avenue, N.W.
 Benson C. Schwartz, 2121 Pennsylvania Avenue, N.W.

Associate Members

Bernard Band, 1015 Spring Street, Silver Spring, Md.
 Oshin Bohjalian, Department of Pathology, D. C. General Hospital
 James Addison Halsted, Veterans Administration Hospital
 Stephen Noland Jones, 809 Viers Mill Road, Rockville, Md.
 George Anthony Ulma, 344 University Blvd. West

Transfers

Active to Life: Thomas E. Mattingly
Active to Associate: Pearl B. Holly and Robert L. Regan
Associate to Active: Juan Gilberto Machado and Eduardo Oliveira

Resignations

Active: Heinz O. Bauer and Catherine Birch
Associate: James A. Ryan

On written request from Dr. Daniel L. Borden, Dr. George W. Calver was elected to Honor-

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ary membership. Dr. Calver was formerly Physician to Congress and is presently retired.

A request from Dr. Poo Liang Chang for remittance of dues during his service with the Baptist Hospital in Hong Kong was approved for 1967.

Dr. John F. Hannon, Associate member, was dropped for nonpayment of 1966 dues.

The Secretary reported on the following:

1. That all area Medical Societies had agreed to confer concerning renegotiation of the contract with the Office of Dependents' Medical Care prior to meeting with representatives of ODMC.

2. The status of Public Law 89-239 (Heart, Cancer, and Stroke) and the selection of Dr. John A. Kenney, Jr., as Chairman Pro Tem of the Advisory Group.

3. A conference called by Dr. Nicklas relating to Public Law 89-749 having to do with area-wide health planning. This conference was attended by Dr. Herbert P. Ramsey, Dr. Henry Gavens of the Department of Health, Education, and Welfare, and Mr. John R. McKinney of the Health Facilities Planning Council. The purpose was to interest the Council in this particular planning project.

4. The Peoples Drug Store display on multiphasic screening. The Board agreed that the term "free health test" and the term "test" should be altered to bring out the actual purpose of the program, which is screening only. The President was authorized to appoint a committee to review the results of the Health Department's multiphasic screening program as it stands today.

5. A request from the Board of Trade for financial assistance in its newly organized program to "Reduce Crime Now." The Board recommended that individual members be urged to contribute.

6. The revised Guidelines for the Fee Review Committee and suggested revision of the 5 sample letters used by Medical Service of D. C. regarding Major Medical and Supplemental Benefit claims.

7. A case handled by the Committee on Ruffin and Other Bequest Funds, pointing out that the assistance had been most helpful and was most appreciated by the recipients.

8. A small poster being distributed to all physicians as a follow-up to the Health Department's program for the prevention of measles.

Committee on Environmental Health: Dr. Harold M. Hobart presented a statement prepared by this Committee in reference to water pollution and urged its immediate distribution to show the positive interest of the Society in the problem. It was voted to approve the statement and to

distribute it with an accompanying letter to key individuals as well as to communications media.

Committee on Emergency Medical Service:
The following recommendations of this Committee were approved:

1. Sponsoring with other professions of a Disaster Training Seminar and drill for September or October 1967.
2. Tentative plans for the rationing of health personnel and supplies in case there is a national disaster affecting the District of Columbia, with details to be reported back to the Executive Board.

Miscellaneous

Dr. Ecker reviewed briefly the AMA Conference on Misuse and Abuse of Narcotics that he had attended in New York City as a representative of the Society.

Dr. Ecker also reported on a series of programs on mental depression being sponsored by local mental health groups and financed by the Geigy Chemical Company. He stated that he had been requested to ask for permission to add the Medical Society as a co-sponsor since the attendance to date had been rather poor. It was agreed that this was satisfactory and Dr. Ecker was authorized to so notify those concerned.

Dr. Bacon reported briefly on his attendance at the Conference on Socio-Economics of Health Care, sponsored by the AMA.

Dr. Bacon presented a letter suggesting that the Medical Society establish a Committee for the Control of the Quality of X-ray films under Title XIX of Public Law 89-97. After some discussion it was agreed to give this matter further consideration providing data are made available to the Executive Board.

There being no further business, the meeting was adjourned.

Meetings

Georgetown University School of Medicine will celebrate **Alumni Day**, June 10; registration will begin at 9:00 a.m. in the Gorman Auditorium of the Hospital. Dr. John C. Rose, Dean of the School of Medicine, will discuss "The State of the School" and Dr. Bruce I. Shnider, Associate Dean, "The Class of 1971."

The special feature will be an address by Dr. Francis M. Forster, formerly Dean of Georgetown University School of Medicine. Dr. Forster is now

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Professor of Neurology and Chairman of the Department at the University of Wisconsin. All physicians in the Washington area are invited to attend this lecture on "Conditioning Therapy in Seizures," which is scheduled for 10:00 a.m. The President's Luncheon at 12:30 p.m. will be the concluding event.

The 116th Annual Convention of the American Medical Association will be held in Atlantic City, N. J., June 18-22. Convention Hall and surrounding hotels will house the scientific program. The House of Delegates will meet at the Chalfonte-Haddon Hall Hotel.

Twenty-two scientific sections will offer programs individually, and many will hold joint meetings on subjects of common interest. Color telecasts will be broadcast live from a Philadelphia Hospital in coöperation with the University of Pennsylvania School of Medicine.

Of special interest will be a panel discussion, "The Doctor's Dilemma in the World of Changing Morals," to be held, Sunday, June 18, at 8:15 p.m. in Convention Hall. Sponsored by the AMA Committee on Medicine and Religion, the discussion will cover such topics as the unwed mother, contraceptives and the co-ed, abortion, and alcoholism. Panelists will include the Rev.



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Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

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Dr. Seward Hiltner, Ph.D., of Princeton Theological Seminary; Dr. Harold I. Lief, of the University of Pennsylvania; the Rev. Thomas J. O'Donnel, S.J., formerly Professor of Moral Ethics of Woodstock Seminary and Georgetown University School of Medicine; and Dr. John Rock, Director of the Rock Reproductive Clinic, Inc., of Boston. The Rev. Dr. Paul B. McCleave, LL.D., Director of the AMA Department of Medicine and Religion, will serve as Moderator.

General News

Georgetown University has set up an **International Health Clinic** at its Medical Center, limited initially to students, faculty and University staff. Dr. Patrick J. Doyle, Chairman of the Department of Community Medicine and International Health, states that the Clinic will provide all necessary immunizations, including those against cholera and yellow fever, on a fee basis. In addition, a specially-trained nurse will be available to answer questions. Other Georgetown University faculty members involved in the project include Drs. Maurice A. Capone, Elbert T. Phelps, and Bernard E. Nunez. The Clinic will be open one day a week, on Mondays, in the Out-patient Department of the Hospital.

The new **Clinical Research Center** currently under construction at **Children's Hospital** will be **named for Dr. Montgomery Blair, Jr.**, Medical Director Emeritus. The announcement was made at the Eighth Annual Medical Staff Dinner, held March 13, at the International Club.

Among those honored at the dinner were former Board Presidents, Judge J. Edgar Murdock and Mr. James H. Lemon, and from the medical staff, Dr. Edward B. Broocks, Dr. Milton M. Greenberg, retiring Chairman of the Medical Staff, and Drs. O. Hugh Fulcher and Crenshaw D. Briggs, who have been named to the Senior Advisory Staff of the Hospital. Dr. Robert Johns Haggerty, Professor and Chairman of the Department of Pediatrics at the University of Rochester, delivered the Edgar P. Copeland Memorial Lecture.

The Clinical Research Center will be an 8-bed facility to provide suitable environment for clinical research for children of all age groups. There will be special emphasis on research in the area of

changing metabolism related to growth and development and to specific disease states.

Two informative publications are available free to members from the Law Department of the American Medical Association.

"The Citation," a semi-monthly newsletter, is directed primarily to attorneys for medical societies, medical society executives, and members of medicolegal committees, but many other physicians interested in current legal developments affecting their profession have been added to the mailing list at their request.

"Disciplinary Digest," a 78-page paperback, details court decisions involving disciplinary actions by state boards of medical examiners. The decisions are broken down into component issues which are grouped according to subject matter or legal principle involved. The study includes some 240 individual decisions, plus a table of cases and a table of cases by jurisdiction for cross-reference, as well as a subject index.

Members of the AMA may obtain these publications without charge by writing to the Law Division of the AMA, 535 North Dearborn Street, Chicago, Ill. 60610. The charge for "Disciplinary Digest" is \$2.50 to non-members.

At the Annual Meeting of the **Board of Trustees of Group Hospitalization Inc.**, Mr. F. P. Rawlings, Jr., President, announced that Dr. Josephine E. Renshaw has been elected Secretary of GHI. She succeeds Mr. James H. Lemon, of the investment firm of Johnston, Lemon & Co., who has retired from the Board.

All other officers of Group Hospitalization were reelected. They are: Mr. Rawlings, President; Mr. Howard W. Kacy, of Acacia Mutual Life Insurance Co., First Vice President; Dr. Ralph D. Whitley, Second Vice President; and Mr. Douglas R. Smith, of the National Savings and Trust Co., Treasurer.

Two new trustees were elected to the Board for 5-year terms. They are Dr. Paul R. Wilner, nominated by the Medical Society of D. C. to succeed Dr. Paul Kiernan, and Mr. Thomas H. Reynolds, of the American Security and Trust Co., to succeed Mr. Lemon. Mr. Smith was reappointed to the Board for a 5-year term.

The AMA Committee on Rating of Mental and Physical Impairment announces that the tenth guide in the series, **"Guides to the Evaluation of Permanent Impairment,"** is now available. This guide is concerned with mental illness. Like

all the others in the series, it has been designed primarily for use by physicians. The guide is, however, of interest and use to all concerned with the medical, administrative, or judicial aspects of programs for the disabled. A limited number of copies of the guide may be obtained, without charge, upon request to the AMA Committee on Rating of Mental and Physical Impairment, 535 North Dearborn Street, Chicago, Ill. 60610.

Copies of "**Medicare and the Physician**," a 96-page pocket book containing questions and answers on Public Law 89-97, are still available free of charge from the American Medical Association. The physician may obtain his copy from the AMA Program Services Department.

Formation of the **National Association of Medical Examiners** to advance the administrative, career and other practical interests of the country's medical examiners has been announced by Dr. Milton Helpen, Chief Medical Examiner of New York City and Interim President of the new organization.

Dr. Helpen said the Association will seek to deal with such problems as the need for greater understanding and support for the medical examiner system from the general public, Government officials at all levels, and the medical and legal professions, and the need for a greater exchange of information and opinion among medical examiners.

Physicians who are interested in the new organization and believe they are qualified to belong are invited to write to the National Association of Medical Examiners, 520 First Avenue, New York, N. Y. 10016.

The Awards Ceremony of the Ninth Annual High School Heart Research Program, sponsored by the Washington Heart Association, was held at the Medical Society's building, March 18. Dr. Rufus J. Pearson, recently appointed Attending Physician to both houses of Congress, was the guest speaker. The awards, consisting of fellowships of \$200 each for summer work in local laboratories, were given to 20 students in the District high schools—public, private and parochial—who ranked highest in written examinations given following 3 Saturdays of lectures by physicians on diseases of the heart and blood vessels. In addition to the fellowship, each winner received a medical researcher's laboratory coat.

The winning students represented 10 high schools; there were 8 winners from Woodrow Wilson Senior High School, 3 from Gonzaga High

School, 2 from Sidwell Friends School, and 1 each from McKinley Senior High School, Western Senior High School, National Cathedral School, Eastern Senior High School, St. Anselm's Abbey School, Woodward School for Boys, and St. Anthony High School. Most of the winners were sophomores.

The Washington Heart Association reports that during its 9 years of sponsoring this research program, approximately 3,000 high school science students have participated.

The American Medical Association announces the **retirement of Dr. Walter S. Wiggins**, Secretary of its Council on Medical Education. He will be **succeeded by Dr. C. H. William Ruhe**, Associate Secretary of the Council since 1960. Dr. Wiggins had served on the Council for more than 13 years.

A new appointee is **Dr. Harold Margulies** who has been **named Assistant Director of the AMA Division of Socio-Economic Activities** and assigned to the Washington Office. Dr. Margulies, formerly Associate Director of the Division of International Medical Education for the Association of American Medical Colleges, assumed his new duties, May 1.

The Washington Psychiatric Society elected new officers at its annual meeting, March 31. They are:

Dr. Dale C. Cameron, *President-elect*; Dr. Robert B. Neu, *Secretary*; and Dr. Milton Meltzer, *Treasurer*.

Dr. Richard A. Steinbach, President-elect during 1966-67, is the new President. Dr. Leon Salzman and Dr. William H. Young, Jr. were elected to the Council.

As is customary at the annual meeting, the President of the American Psychiatric Association, this year Dr. Harvey Tompkins, was the guest speaker.

The Research Foundation of Children's Hospital has elected the following officers: Mr. Morton Gerber, President of the District Theatres Corporation, President; Dr. Montgomery Blair, Jr., Vice President; Dr. Sydney Ross, Secretary; and Mr. Robert B. Swope, Assistant Treasurer. Mr. Gerber, who was previously Vice President of the Foundation, succeeds Dr. William S. Anderson, who was reelected to the Board.

Dr. Charles E. Townsend has succeeded Dr. Robert B. Nelson as **Medical Director of**

Planned Parenthood of Metropolitan Washington. Dr. Townsend has been associated with Planned Parenthood for 13 years and has served as Assistant Medical Director.

Dr. Nelson was elected Chairman of the Association's Medical Advisory Board, succeeding Dr. Samuel M. Dodek. Dr. Nelson has served the Association for 19 years, as clinician and as Medical Director.

Personals

Dr. Daniel J. Abramson, who has served more than 16 years as Chief of the Surgery Clinic, Department of Hospital Clinics, Walter Reed General Hospital, was recently awarded the Decoration for Exceptional Civilian Service by the Department of the Army. He received the citation from Brigadier General Philip W. Mallory, Hospital Commander.

Dr. Abramson, surgeon and gastroenterologist, is credited as the first to develop a method for dissolving bladder stones in humans with the use of acidifying solutions. Among his many other accomplishments are the development and refinement of the technique for the exteriorization of pilonidal cysts and sinuses and development of a new type of postoperative dressing which allows the dressing to be changed without the removal of the adhesive.

Dr. Abramson received his medical degree from the University of Maryland in Baltimore. He completed a residency in pediatrics at D. C. General Hospital and a residency in general surgery at Washington University Hospital in St. Louis. He is attending surgeon at Children's Hospital and the Washington Hospital Center.

Dr. Homer L. Twigg, Jr., of Bethesda, Md., has been named Acting Chairman of the Department of Radiology at the Georgetown University School of Medicine, effective July 1. He will succeed Dr. Willy Baensch, who will retire but continue as a consultant in the Department.

Dr. Twigg, Associate Professor of Radiology, and presently serving as Assistant Director of the Department, received his medical degree from the University of Maryland in 1951. He is consultant in radiology to the Veterans Administration Hospital, the National Institutes of Health, and St. Elizabeths Hospital.

Dr. Twigg is a descendant of Oliver Twigg who settled in Maryland in 1761 on a piece of land granted him by the King of England. This land, which is near Cumberland in Allegheny County, later became the location of a community named Twiggstown, in honor of Oliver Twigg.

Dr. William B. Walsh, founder of Project HOPE, was one of 6 distinguished Georgetown University alumni who were presented the 1967 Alumni Achievement Awards by the Georgetown Alumni Club of Metropolitan Washington at a luncheon, March 17, at the National Press Club. Dr. Walsh is a graduate of the School of Medicine, Class of 1943.

Dr. Jeanne C. Bateman was the recipient of the Aesculapian Award, presented by the Mead Johnson Laboratories, for the best scientific exhibit at the Michigan Academy of General Practice Postgraduate Clinic in Detroit, March 15. The title of her exhibit was "Mammary Cancer: Diagnosis and Therapy."

Dr. George E. Schreiner, Professor of Medicine at Georgetown University School of Medicine and Director of the Renal and Electrolyte Division of the Hospital, was invited to deliver the principal address, March 24, at a banquet inaugurating a National Kidney Foundation in South Africa. Dr. Schreiner has long been active in the work of the National Kidney Foundation and is Secretary of the newly organized American Society of Nephrology.

Dr. Stanley M. Sinkford, Assistant Professor of Pediatrics at Howard University College of Medicine, has been granted a leave of absence for the balance of the current school year in order to pursue advanced studies in pediatric cardiology in the Department of Pediatrics at Johns Hopkins Hospital. Upon his return to full-time duties at Freedmen's Hospital and the University, Dr. Sinkford will participate as a member of a team of heart specialists and cardiac surgeons in providing comprehensive diagnostic and treatment services for adults and children at the Howard-Freedmen's Medical Center.

Dr. Charles P. Waite, who retired from the Federal Service in 1960 as Assistant Medical Director of the Civil Service Commission, has completed a residency in psychiatry at the Nebraska Psychiatric Institute. Now Board-certified in psychiatry, he has accepted the position of staff psychiatrist at the Norfolk State Hospital in

Norfolk, Nebraska. He is an Associate member of the D. C. Medical Society.

Dr. David H. Kushner, former Chief of Staff of Columbia Hospital for Women, has been appointed to the Board of Directors of Columbia Hospital to serve for a 2-year period.

Dr. Elizabeth S. Kahler represented the Medical Society of the District of Columbia at the National Meeting of State Medical Society Medicine and Religion Committee Chairmen in Chicago, February 17-19.

Dr. George A. Resta has been named team physician for the Washington Whips, the newly organized professional soccer team. Dr. Resta has been serving as team physician for the Washington Senators since 1947 and for the Washington Redskins since 1957.

At that time he transferred his membership in the D. C. Medical Society from Active (since 1949) to Associate; he resigned his Associate membership in 1962. He was a diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, a member of the American Medical Association, and a member and Past President of the West Virginia Heart Association.

He leaves his wife, Mrs. Ruth Kistin, a son, Martin, and a daughter, Naomi, all of 221 Vine Street, Beckley, and a brother, Mr. Marcel Kistin, of Boston.

Slander, Libel, Breach of Promise—Herzmark

(Continued from page 292)

to work in 6 weeks, he was out of work more than 6 months.

The case came to trial. In court he testified that I assured him before the operation that he would be well in 6 weeks but that more than 6 months elapsed before he could work. This statement was corroborated by his wife, who stated I had told her the same thing in his presence. Thus, the score was against me 2 to 1. Fortunately, I remembered that my office aide had overheard the discussions from an adjoining room, and although she was no longer in my employ she remembered and testified to the true facts in court. The judge gave a directed verdict in my favor.

There is an increasing tendency by lawyers who handle malpractice claims to add breach of promise to the bill of complaint. The reasoning is that since the professional liability insurance does not cover the latter, the physician will press for settlement of the former to avoid trial. These demands for settlement have encouraged such suits, have enormously increased premium rates, and have reduced the number of insurance companies willing to write professional liability insurance.

I would advise physicians to have the courage to defend such claims in court even though it means loss of time. When lawyers find that they cannot get easy settlements and cannot win in court, this nuisance harassment of the medical profession will lessen greatly.

Experience with medicolegal societies has shown that physicians can benefit from firsthand knowledge of laws pertinent to their practice. It is also suggested that medical schools include a course in business law along with the course in forensic medicine.

"Lost is our old simplicity of times,

The world abounds with laws and teems with crimes."

Obituaries

Albert David Kistin, A.B., M.A., M.D., F.A.C.P. (1907-1967)

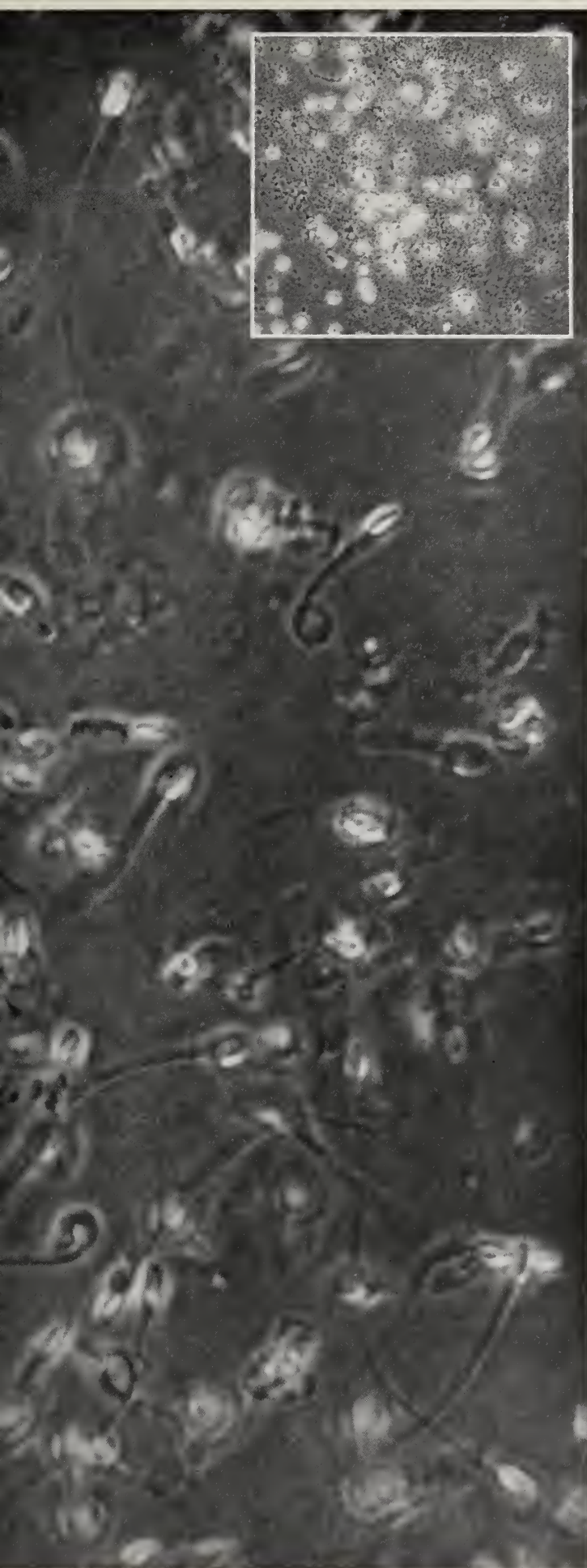
DR. ALBERT D. KISTIN, Chief of Medicine at the Beckley Memorial Hospital, Beckley, West Virginia, died suddenly in Beckley, March 22, 1967. Dr. Kistin was a former Washington physician.

Dr. Kistin was born in Paris, France, June 7, 1907. He obtained his undergraduate degree from Cornell University in 1927 and his Master's degree in 1928. He graduated in medicine from Rush Medical College in 1935, and interned for a year at Mt. Sinai Hospital, New York. He completed a 2-year residency in internal medicine at Montefiore Hospital in New York City.

Dr. Kistin served with the Veterans Administration, beginning in 1937. This service was interrupted by 3 years of active duty in the Medical Corps of the U. S. Army, from 1943 to 1946, with the commission of Captain. After this tour of duty he came to Washington to serve in the VA Cardiovascular Research Unit. At that time he also joined the faculty of George Washington University School of Medicine as Associate in Medicine. Since the 1950's he has been a Special Lecturer on Cardiology at George Washington.

Dr. Kistin moved to Beckley, W. Va., in 1955.

New view of an oral contraceptive at work



A large, dark, grainy microscopic image showing numerous spermatozoa with long, wavy tails. In the upper left corner, there is a smaller, rectangular inset showing a different microscopic view of spermatozoa, which appear more clustered and less motile than those in the main image.

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1 — which provide the combined action of both low-dosage progestogen and estrogen for the full treatment cycle — offer multiple contraceptive action that helps explain their unexcelled record of effectiveness. This report explores the secondary protective mechanisms against unwanted pregnancy offered by combined hormonal administration and the importance of the progestational agent in making such multiple contraceptive action possible.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has an adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) reverses the usual mid-cycle picture of a thin, watery cervical mucus. The result—a built-in barrier that inhibits sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

How the estrogen-opposing action of Norinyl-1 creates a hostile cervical mucus

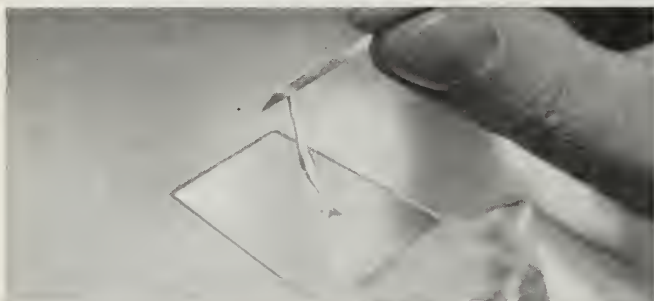
Normally estrogen activity during the fertile midcycle stimulates the production of cervical mucus. The mucus at this time is profuse and watery—allowing maximum sperm motility and promoting penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that diminishes the vitality of the sperm and impairs its powers of penetration.

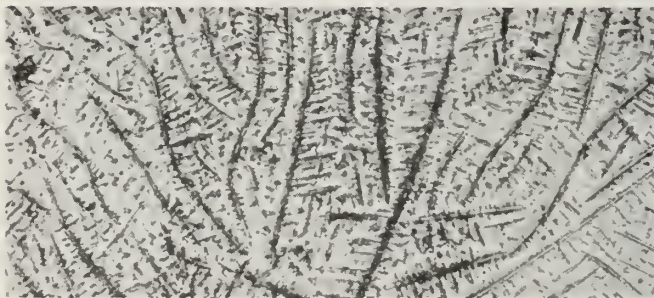
How hostile cervical mucus supports contraceptive action

The importance of these observations to the effectiveness of Norinyl-1 has been noted in a report on 89 patients taking this medication.* In all instances, cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit. In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception. *Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

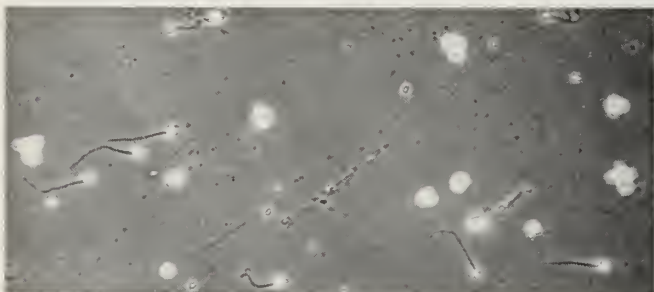
Normal cervical mucus at midcycle in untreated patient permits sperm motility... promotes sperm penetration.



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.



Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

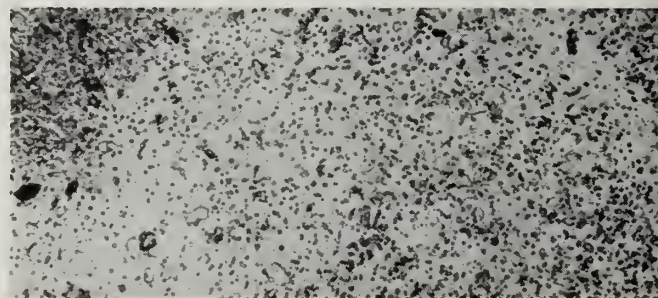


Spermatozoa appear healthy, are active and freemoving.

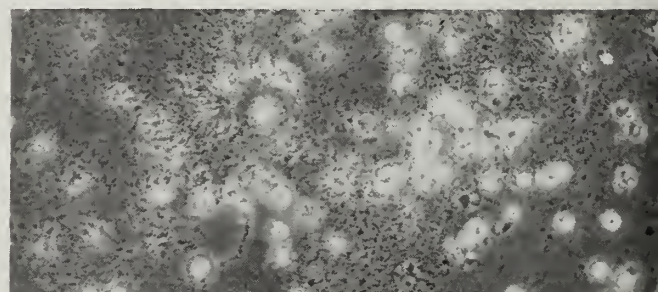
Hostile cervical mucus at midcycle produced by Norinyl-1 impairs sperm vitality... inhibits penetration.



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, hostile cervical mucus the fern pattern is poorly defined or absent.

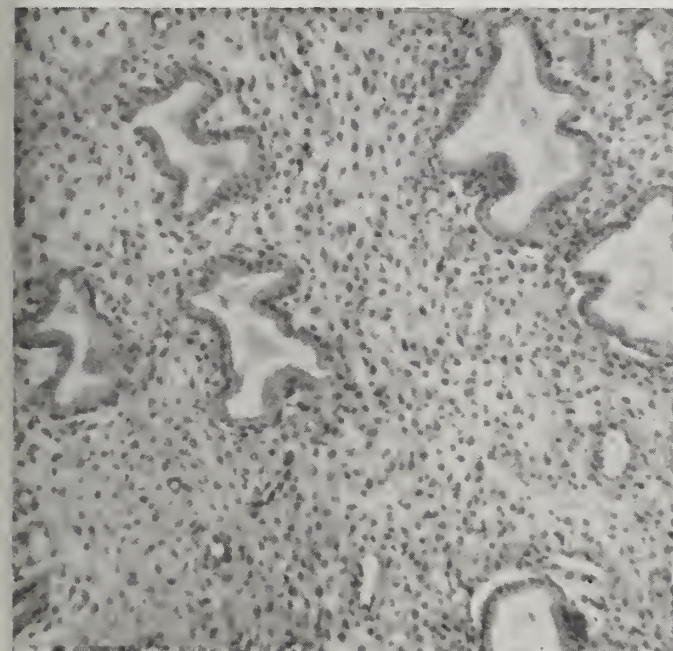


Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

An endometrium unreceptive to nidation—another supporting contraceptive action of Norinyl-1

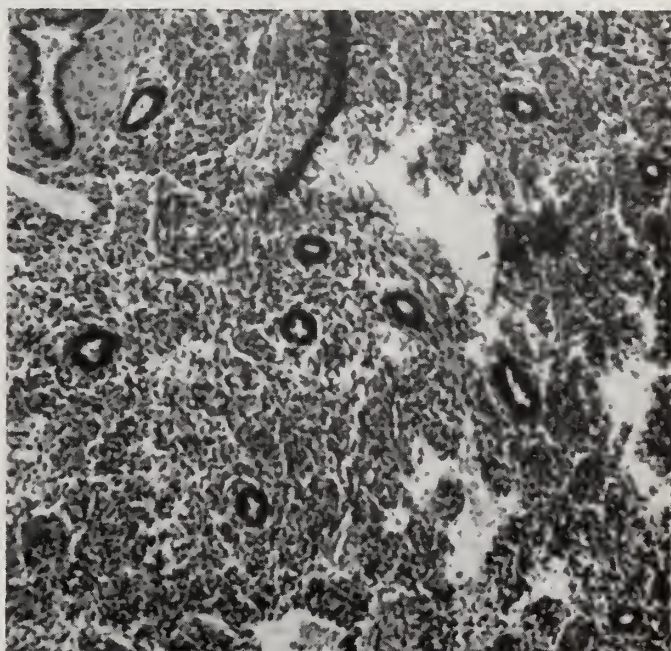
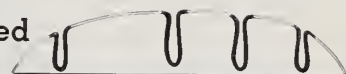
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier? Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy—progestogen intake makes endometrial tissue unreceptive to implantation.

Endometrium of untreated patient



Normally the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Unreceptive endometrium produced by Norinyl-1



When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase, suppressing glandular development. From day 11 on, secretory action is no longer present. The result is that during the latter half of the cycle the endometrium becomes unreceptive to egg implantation.

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(norethindrone 1mg & mestranol 0.05mg) **tablets**

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on half the previous dosage

maintains ratio
of the established
norethindrone/mestranol
combination

lower cost

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Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which both norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.*

*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

PRESCRIBING INFORMATION

Contraindications: 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

Warnings: 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

Precautions: 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are

indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be

altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metapyrone test, pregnane diol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. For complete clinical data, see package insert.

Dosage and Administration: 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

Availability: Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

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INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

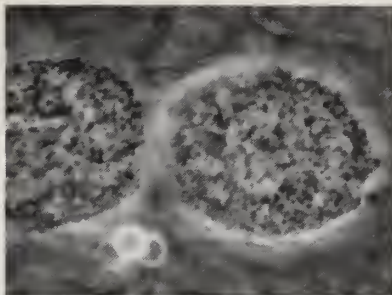


Visual evidence of how corticosteroids influence the inflammatory reaction

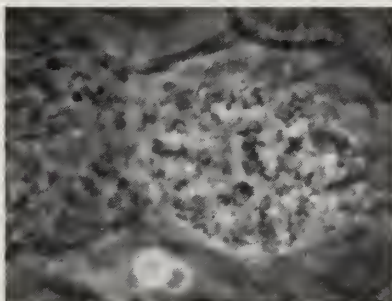
Working with phase-contrast cine-micrography on living animal tissue, Doctors Thomas F Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



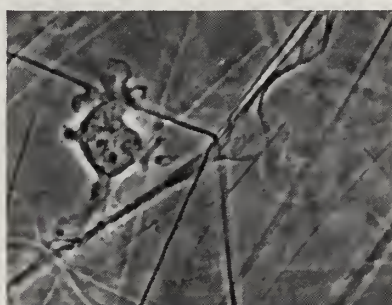
Phase-contrast microscopy showing mast cell before injury.



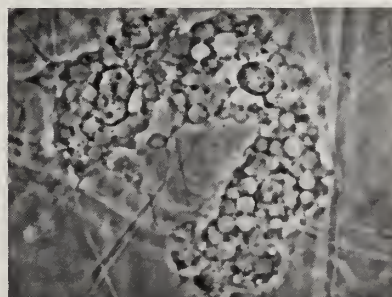
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

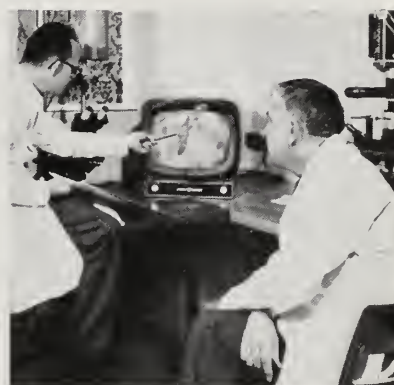
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid—Synalar (fluocinolone acetonide)—the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

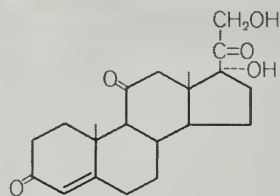


In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

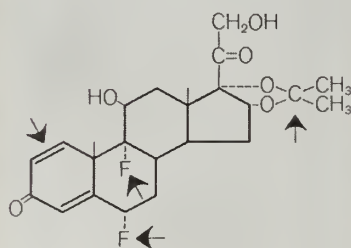
*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



Hydrocortisone

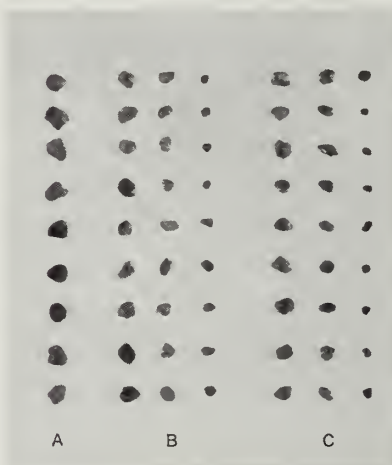


Fluocinolone Acetonide (Synalar)

- a double bond between carbons 1 and 2
- fluorine substitutions at both the 6- α and the 9- α positions
- the addition of the acetonide at the 16- α , 17- α positions, thus providing one of the most potent topical corticosteroids available.

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY¹⁻⁴ is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B—injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY¹⁻⁴ also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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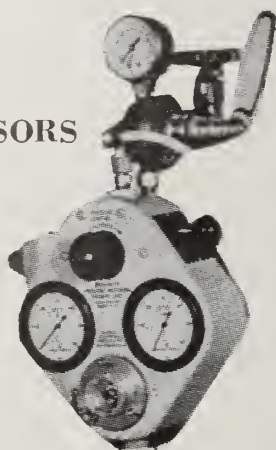
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Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

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BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received.

Medical Department, United States Army: Radiology in World War II. COLONEL ARNOLD LORENZ AHNFELDT, MC, USA, Editor in Chief; KENNETH D. A. ALLEN, M.D., Editor for Radiology; ELIZABETH M. MCFETRIDGE, M.A., Associate Editor; AND MINDELL W. STEIN, B.Sc., Associate Editor. Prepared and published under the direction of LIEUTENANT GENERAL LEONARD D. HEATON, The Surgeon General, United States Army. Price, \$8.25. Pp. 1087, illustrated. Washington, D. C. 20402: U. S. Government Printing Office, 1966.

Current Therapy 1967. Latest Approved Methods of Treatment for the Practicing Physician. Edited by HOWARD F. CONN, M.D. with 12 Consulting Editors and 332 Contributors. Price, \$13.00. Pp. 844. Philadelphia: Saunders, 1967.

Atlas of Vascular Surgery, 2nd ed. FALLS B. HERSHEY, M.D., F.A.C.S., AND CARL H. CALMAN, M.D., F.A.C.S. Price, \$19.50. Pp. 318. Illustrated by Kathryn Murphy Masterson and William R. Schwarz. St. Louis: Mosby, 1967.

Postoperative Complications in Neurosurgical Practice: Recognition, Prevention, and Management. NORMAN H. HORWITZ, A.B., M.D., AND HUGO V. RIZZOLI, A.B., M.D. Price, \$17.50. Pp. 427, illustrated. Baltimore: Williams & Wilkins, 1967.

Congestive Heart Failure. RALPH M. MYERSON, B.S., M.D., F.A.C.P., AND BERNARD H. PASTOR (deceased), A.B., M.D., F.A.C.P. Price, \$12.85. Pp. 174, illustrated. St. Louis: Mosby, 1967.

Diabetes for Diabetics. A Practical Guide. GEORGE F. SCHMITT, M.D., F.A.C.P. Price, \$5.95. Pp. 237, with 220 illustrations. Miami, Fla.: Diabetes Press, 1965.

Neuro-ophthalmology. Volume III. Symposium of the University of Miami and the Bascom Palmer Eye Institute. Compiled and edited by J. LAWTON SMITH, M.D. Price, \$25.00. Pp. 349, with 200 illustrations. St. Louis: Mosby, 1967.

Clinical Pathology. Interpretation and Application, 4th ed. BENJAMIN B. WELLS, M.D. Ph.D., AND JAMES A. HALSTED, M.D. Price, \$11.50. Pp. 708, illustrated. Philadelphia: Saunders, 1967.

Hearts. Their Long Follow-up. PAUL DUDLEY WHITE, M.D., AND HELEN DONOVAN. Price, \$12.00. Pp. 357, with 63 illustrations. Philadelphia: Saunders, 1967.

Obstetrics and Gynecology, 3rd ed. J. ROBERT WILLSON, M.D., CLAYTON T. BEECHAM, M.D., AND ELSIE REID CARRINGTON, M.D. Price, \$15.50. Pp. 776, with 346 illustrations. St. Louis: Mosby, 1966.

Tandearil® oxyphenbutazone

Tandearil in Painful Shoulder

Therapeutic Effects: Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Painful Shoulder: 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

Availability: Tablets of 100 mg. 6562-VI(B)R

For complete details, please refer to full prescribing information.



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helps painful shoulders
move again



Please see ad-
joining page for
brief prescribing
summary.

TA-5094PC

Sperling, I L.
Applied Therap. 6:117,
1964
Rosenbaum, E. E., and
Schwarz, G. R. North-
west Med. 61:927, 1962

3 out of 4 painful shoulder patients
responded well

84.2% of 127 patients

81% of 48 patients

Why these 7 patients with **moderate to severe anxiety** may respond better to Mellaril

1. The agitated patient.

Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.





2. The psychosomatic patient.

The family physician is rarely given the diagnostic luxury of a classic, textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.



3. The patient under situational stress.

Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.



4. The menopausal patient.

The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.



5. The previously hospitalized psychiatric patient.

Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.



6. The agitated geriatric.

Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.



7. The constantly returning patient.

The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

Contraindications: Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

Precautions: Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

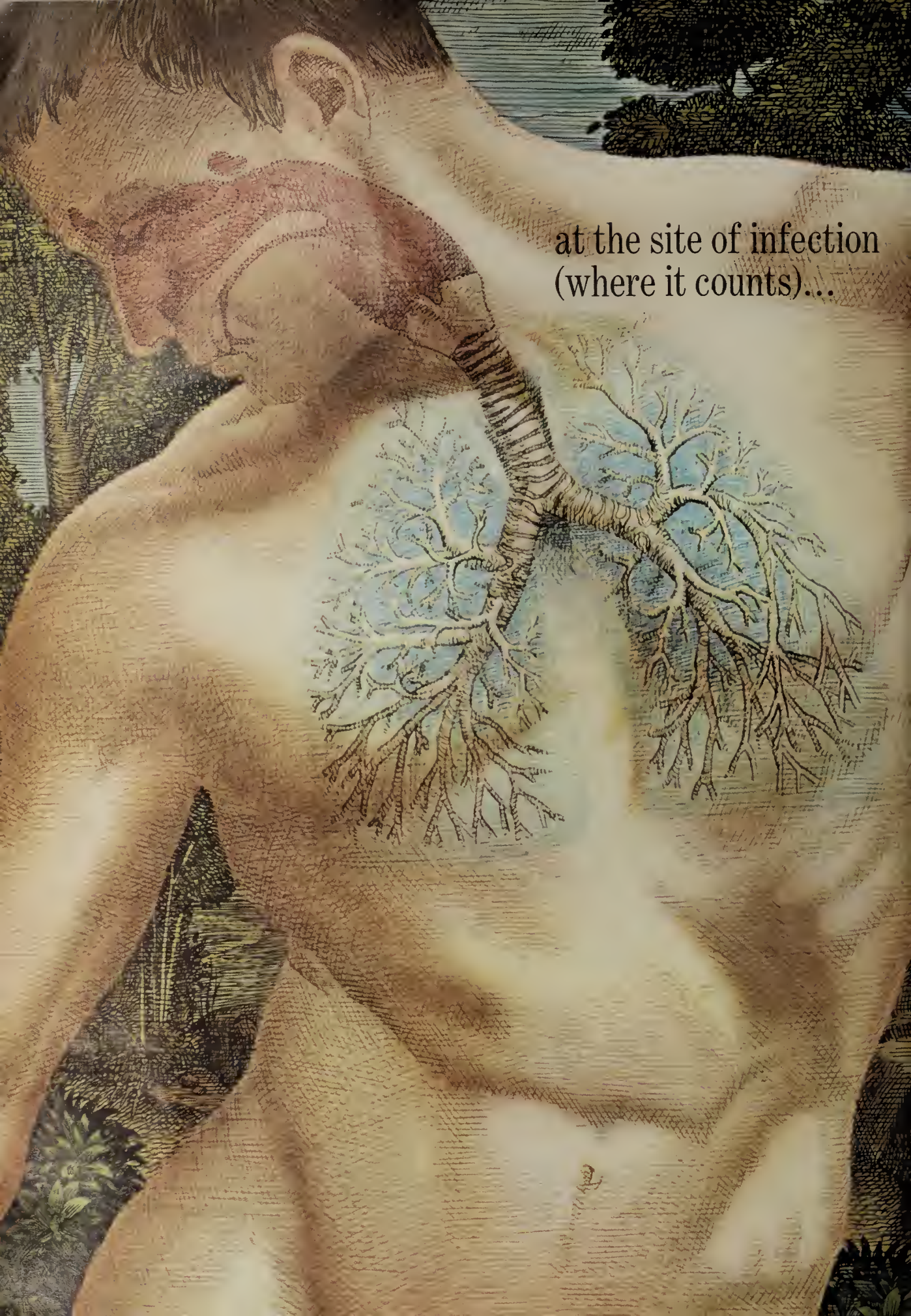
Side Effects: Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

Before prescribing, see package insert for full product information.

in moderate to severe anxiety, 25 mg. t.i.d.

Mellaril[®]
(thioridazine)



An anatomical illustration of a human torso, showing the head, neck, and upper chest. A complex network of branching vessels, resembling a tree, is overlaid on the skin, primarily concentrated in the neck and upper chest area. The vessels are drawn in a light brown or tan color. The background of the illustration is a textured, light brown color. In the upper right corner, there is a small, dark, stylized landscape element. The overall style is that of a medical or scientific illustration.

at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food¹⁻³

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.^{1,2} Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.^{1,3}

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Ilosone®
Erythromycin Estolate

700121



(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extra-hepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamyl oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

Ilosone Drops

Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended: In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pyles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.
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BOOK REVIEWS

Peripheral Arterial Disease. Volume IV in the Series, Major Problems in Clinical Surgery. WILEY F. BARKER, M.D., AND J. ENGLEBERT DUNPHY, M.D., Consulting Editor. Price, \$8.50. Pp. 229, illustrated. Philadelphia: Saunders, 1966.

This is much too small a book (only 229 pages including the index) to cover the subject of peripheral artery disease. The initial chapters on anatomy, physiology, pathogenesis and diagnosis all have an excellent bibliography, but, because of the minimal space allotted, the treatment is superficial. It would have been far better to allot all of the space to the material in the last chapters, which deal with the author's personal experiences with operations on the blood vessels of the legs. This part of Dr. Barker's book is fascinating, because it represents a single honest man's wide experience in the field. The author does not magnify his results or hide his complications, and as a result the last 100 pages of this book illuminate many of the problems of vascular surgery today with a candor not always characteristic of this field. Those surgeons who actually reconstruct arteries will find the last half of this book well worth the price; those who buy it as a general reference will be disappointed.

HARRY ZEHNER, JR., M.D.

Atlas of Hernia Repair. CARL H. CALMAN, M.D., F. A. C. S. Illustrated by Katherine Masterson. Price, \$16.75. Pp. 159, illustrated. St. Louis: Mosby, 1966.

This is an excellent coverage of a subject that is often taken lightly. As the author points out, this work is often relegated to the first year resident or intern in the training program.

The book is well organized. It refers to the history, anatomy and physiology of hernia repair. The complications and technical errors are covered adequately. The common problems in hernia repair are covered very thoroughly. The illustrations of the different surgical techniques are adequate. The concept of using the repair which fits the situation instead of a routine procedure for every type of hernia is expressed throughout the book.

This is an excellent book for the student and a fine review for the more advanced surgeon.

JAMES T. ESTES, M.D.

Atlas of External Diseases of the Eye. Volume I. Congenital Anomalies and Systemic Diseases. DAVID D. DONALDSON, M.D. Price, \$35.00. Pp. 169, with 83 figures, 105 stereoscopic views in full color on 15 View-Master® reels, and a View-Master® compact viewer. St. Louis: Mosby, 1966.

In recent years several stereoscopic atlases of the eye have been published. These have dealt primarily with the internal structures of the eye—the fundus, optic disc, and anterior chamber angle. Dr. Donaldson has now provided us with a superb collection of stereoscopic views featuring external ocular diseases. These include

diseases of the lid, orbit, conjunctiva, cornea, iris and lens.

The stereoscopic views are accompanied by an explanatory text which contains additional illustrative material. The text is divided into 2 parts. Part I deals with congenital anomalies which are treated on an anatomic basis. Included in this section are examples of dislocated lenses in Marfan's and Marchesani's syndromes and in homocystinuria; corneal opacities in Hurler's and Riley-Day syndromes; iris anomalies in Down's and congenital Horner's syndromes. These are but a few of many conditions dealt with. Developmental anomalies of the lid, orbit, and conjunctiva are also illustrated.

Part II of the volume is concerned with the ocular manifestations of systemic diseases. This section is subdivided on the etiologic basis of endocrine, metabolic, collagen, vascular and infectious diseases. The effects on the eye of certain drugs are illustrated as are the ocular involvements in neoplastic and dermatologic conditions.

In many systemic illnesses the ocular manifestations are highly characteristic if not pathognomonic of the illness. When these objective signs are located in the external coats of the eye, they are frequently discernible without special equipment. It is apparent, therefore, that a knowledge of these signs will enhance the diagnostic acumen of the clinician. This volume is recommended to all physicians who include the eye in their physical examination.

HAROLD I. RODMAN, M.D.

System of Ophthalmology, edited by SIR STEWART DUKE-ELDER. **Volume IX. Diseases of the Uveal Tract.** SIR STEWART DUKE-ELDER, G.C.V.O., F.R.S., AND EDWARD S. PERKINS, PH.D., M.D., F.R.C.S. Price, \$44.50. Pp. 978, with 815 illustrations and 26 coloured plates. St. Louis: Mosby, 1966.

This is the latest addition to the distinguished series of classic works on ophthalmology which Sir Stewart Duke-Elder has offered to ophthalmologists the world over for the past 30 years. We are all indebted to the author for making this textbook a current up-to-date reference for one of the most difficult subjects with which ophthalmologists have to deal. It is not an easy subject, for there are many things which remain unknown. Many of the concepts of uveal disease change with each decade. Whereas in the "Textbook of Ophthalmology," published 2 decades ago, Sir Stewart Duke-Elder condensed our knowledge into 1 chapter, it has become necessary 25 years later to expand this into a complete volume.

Professor Perkins, who has accomplished so much in experimental studies in this field, collaborates with the author. For those who are familiar with his work, his contribution is very much in evidence in the chapter on inflammation of the uveal tract.

(Continued on page 54)



Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?
in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d.
(initial adult dose)

Indications: Urinary tract infections caused by gram-negative and some gram-positive organisms.

Side effects: Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

Precautions: As with all new drugs, blood and liver function tests are advisable during prolonged treatment. Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function. Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

Dosage: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately 25 mg. per pound of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

How supplied: Buff-colored, scored Caplets® of 500 mg. for adults, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. 250 mg. for children, available in bottles of 56 and 1000.

References: (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

NegGram®
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a specific anti-gram-negative

eradicates most urinary
tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported in more than 2 out of 3 patients with either chronic or acute gram-negative infections.¹

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas²... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

Winthrop

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Book Reviews

(Continued from page 52)

As in previous volumes, interesting biographical sketches and photographs of the great ophthalmologists who have contributed so much are included. Of particular interest to members of the District of Columbia Medical Society is the biographic sketch of Helenor Cambell Wilder, whose extensive studies on intraocular neoplasms and the exciting discovery of *Toxoplasma* as a cause for uveitis are well known to us all. Mrs. Wilder served as Director of the Section of Ophthalmic Pathology at the Armed Forces Institute of Pathology in Washington for many years.

There are 7 comprehensive chapters of diseases of the uveal tract which reflect the many changed concepts of etiology and treatment of these diseases. These include circulatory diseases, inflammations, uveal tract manifestations of systemic diseases, atrophies and degenerations, cysts and tumors, and ciliary choroidal detachments. Valuable information on each of these diseases is offered in a style that is lucid and easily read. The paper and printing are of excellent quality, and the bibliography at the end of each chapter is complete. Illustrations are lavish, with carefully selected graphs and microscopic photographs, roentgenograms, drawings and diagrams, and colored plates, collected from the world's literature.

For the practicing ophthalmologist and the resident in training it is an invaluable addition and should be included in any reference library.

MELVIN G. ALPER, M.D.

Handbook of Ocular Therapeutics and Pharmacology, 2nd ed. PHILIP P. ELLIS, M.D., AND DONN L. SMITH, Ph.D., M.D. Price, \$9.75. Pp. 224. St. Louis: Mosby, 1966.

As the title indicates, this is essentially a handbook, not to replace standard textbooks on therapeutics, and an excellent short reference book, selecting the important and relevant.

The first 50 pages are devoted to the basic principles of antibiotic, steroid and autonomic system drug therapeutics and is very readable. There are also clear and concise introductory chapters to glaucoma, uveitis, and intraocular infections. These short summaries quickly bring to mind the many details which the physician already undoubtedly knows but over the years has slowly forgotten. Many rare conditions are remembered when glancing through the differential diagnosis of the common conditions, and these rarities when looked for are then usually not quite so rare.

This short book is also very helpful, when a resistant disease is encountered, to alert the physician to unusual methods of treatment which may be applied when all else fails, e.g., the use of antimetabolites in resistant chronic uveitis.

Admittedly no book on therapeutics can be completely up to date by the time it is published, and it is

unfortunate that in the section on diabetic retinopathy, hypophysectomy and photocoagulation are mentioned so cursorily, when indeed in this important disease these are the only effective treatments we have available to date.

B. EHRLICH, M.D.

Gray's Anatomy of the Human Body, 28th ed. Revised and edited by CHARLES MAYO GOSS, A.B., M.D. Price, \$22.50. Pp. 1464, with 1,182 illustrations, mostly in color. Philadelphia: Lea, 1966.

The first edition of Gray's Anatomy was published in London in 1858 when Gray was 33 years old. He died at the age of 36 years. This famous book has reached its 107th year of continuous publication in America. I have compared this latest edition with the one I studied as a medical student, designated as "A New American from the Eighteenth English Edition," revised and reedited by Robert Howden, and published also by Lea and Febiger. I thought, and still think, that that volume was "terrific." Many of the drawings—a considerable number in color—were those of the original artist, Dr. H. V. Carter. This latest American edition has more than 200 of Carter's original illustrations. Each edition is naturally better than the previous one, since anatomical research is going on all the time, but much of the old material is still sound. Confronted with a textbook of this magnitude, a medical student must shudder, as I did, but the material is so well organized and the descriptions so lucid that comprehension is easy. I can recommend this new edition in the highest terms.

WALLACE M. YATER, M.D.

Ocular Therapy. Complications and Management. From Symposia on Ocular Drug Complications and Management held under the auspices of the American Academy of Ophthalmology and Otolaryngology. Edited by IRVING H. LEOPOLD, M.D. Price, \$11.00. Pp. 157, illustrated. St. Louis: Mosby, 1966.

So great has been the progress made in the field of medicine in general and medical ophthalmology in particular that the practitioner of ophthalmology finds himself hard put to keep abreast of the seemingly endless numbers of new drugs available for his therapeutic arsenal. Specialty journals are filled with clinical trials, often contradictory and confusing. The detail men and the Physicians Desk Reference both give the desired effects of a drug but do not give realistic appraisals of the specific drugs nor their relative value in terms of how they should be used.

Dr. Leopold has done the practice of ophthalmology a service with the publication of a very practical, concise (and yet not too concise) manual which deserves a place in every practitioner's library. The various contributors to this work have done a great deal of original research in the fields about which they write. There is a vast bibliography to substantiate the statements which are

(Continued on page 56)

WILLIAM TAYLOR IS BIG ON FAD DIETS.

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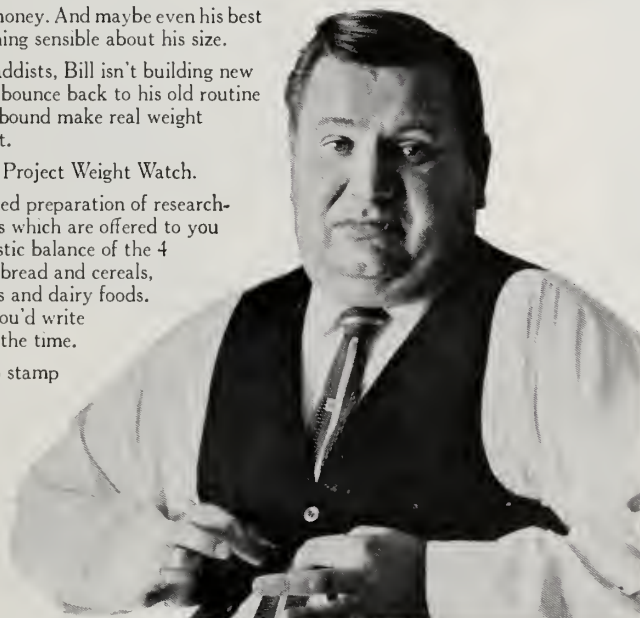
He loses time. And money. And maybe even his best
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FACTS, NOT FADS

Book Reviews

(Continued from page 54)

simplified abstractions of the vast amount of writing which has been done in the past 10 years. Few of the bibliographic references precede 1955, with the majority being from 1960 onwards. There are even references to 1966 papers and work to be published in the future. The evaluations are concise and useful, along the lines of: "I would use this; I would not use that."

Because of the many contributors and their different writing styles, there is some lack of congruity. Certain areas are covered in detail, others very superficially.

Such subjects as antibiotics, tranquilizers, and anesthetics are covered very comprehensively, with easily extractable practical applications for drug usage. The dangerous side-effects are made clear and pitfalls of therapy pointed out. There are areas in the book, however, where editing has not been adequate; for example, there are several confusing charts without legends in the section on pediatric therapeutics. There is some overlapping and some repetition, but generally the subjects are important and bear stressing.

Dr. Leopold has not attempted to compile a therapeutic textbook but has aimed this work at the practical level of everyday problems and their solution. Ophthalmologists will find this manual indispensable.

MERVIN H. ZIMMERMAN, M.D.

Ciba Foundation Study Group No. 24. Histones: Their Role in the Transfer of Genetic Information. Edited by A. V. S. DE REUCK, M.Sc., D.I.C., A.R.C.S., AND JULIE KNIGHT, B.A. Price, \$3.50. Pp. 115, with 26 illustrations. Boston: Little, 1966.

This small book, the twenty-fourth in the Ciba Foundation Study Group series, contains the material of a conference held in London on December 3, 1965. Histones, which form the topic of the present volume, comprise a specific class of proteins having an overall positive charge at physiological pH. Histones are found in cell nuclei in association with the genetic material, the DNA, and are believed to play a role in the regulation of gene activity.

Studies designed to understand the physiological role of histones are essentially biochemical in nature. This book is a rich collection of such studies followed by critical discussions. Twenty-three scientists from the United States and from several European countries have contributed in various length to this volume. In final analysis all studies were concerned with the ways that histones are able to influence the metabolic activity of the DNA. As revealed in this volume, we are in the middle of an exciting search to understand the molecular mechanics of gene regulation in higher organisms.

This attractive book represents a valuable addition to existing publications on molecular genetics. The interested physician, however, will find it a difficult reading unless he has a good background in protein chemistry. The small audience to whom the book is directed will, however, appreciate this collection of recent data on histones, will enjoy the splendid presentations and stimulating discussions, will be grateful for the speedy publication, and will be relieved by learning its price. The book is remarkably free from misprints; quotations without references occur twice, namely on pages 77 and 106.

MIHALY BARTALOS, M.D.

Obstetrics and Gynecology, 3rd ed. J. ROBERT WILLSON, M.D., CLAYTON T. BEECHAM, M.D., AND ELSIE REID CARRINGTON, M.D. Price, \$15.50. Pp. 776, with 346 illustrations. St. Louis: Mosby, 1966.

This book is recommended highly to students of medicine in the preclinical as well as clinical years. Interns, residents, and all practitioners of medicine who deliver babies or have a large female practice in internal medicine will find it valuable.

The authors have reduced speculation and controversy in this text to the irreducible minimum. The design in the obstetrical section is to unfold the total picture of human reproduction and its complications in a logical sequence. It decreases the need for rote memorization on the part of the student. The language of the text is so simple that, in many instances, it suggests superficiality. But to the astute student in this field it is clear that the authors have performed an almost impossible task of stripping the labyrinthine mystery from many facts in order to present such facts in a simple, straight-forward manner. This is skillful writing.

The treatment of gynecology in this text provides basic information which is essential to an in-depth understanding of diagnosis and treatment in this area. The section on pediatric gynecology is quite timely and appropriate, giving the text a further picture of completeness. The section on the psychology and life periods of women serves as an excellent introduction to physician responsibility in interpreting and understanding the psychosexual dynamics in the female organism. The sections on normal menstruation, ultra-microscopic studies of the placenta, fertilization, and placental and fetal development are excellent examples of mass data reduction to emphasize a few known facts.

For the benefit of the reader who desires to examine the raw material, the references at the end of the chapters are, in most instances, representative of the major contributions to this subject.

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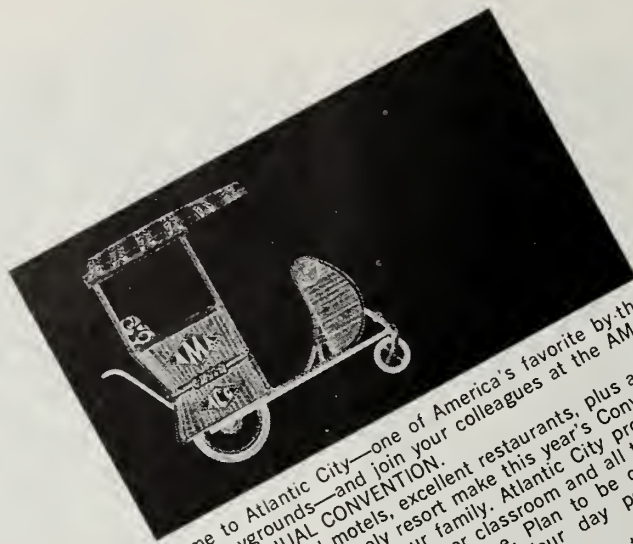
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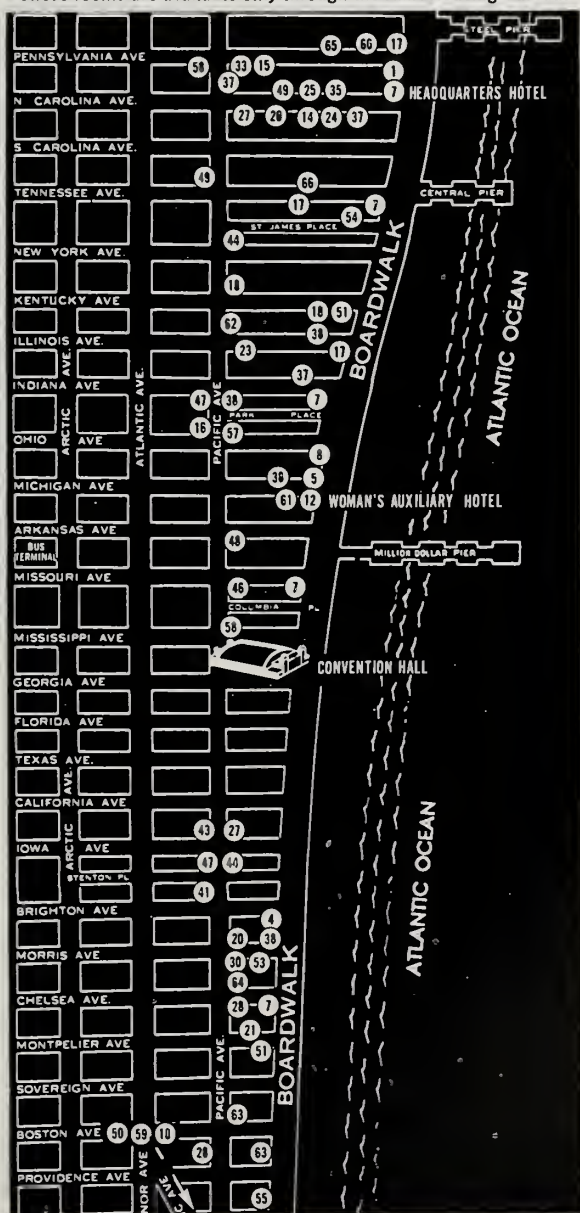
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- May 29-June 2: American Urological Association. New York Hilton Hotel, New York. Address: Mr. William P. Didusch, Executive Secretary, 1120 North Charles Street, Baltimore, Md. 21201.
- June 12-14: American Neurological Association. Claridge Hotel, Atlantic City, N. J. Address: Dr. Melvin D. Yahr, Secretary-Treasurer, 710 West 168th Street, New York, N. Y. 10032.
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- June 15-18: American Therapeutic Society. Hotel Traymore, Atlantic City, N. J. Address: Dr. Alan Frank Kreglow, Executive Secretary, 1801 Eye Street, N.W., Washington, D. C. 20006.
- June 15-19: American College of Chest Physicians. Atlantic City, N. J. Address: Mr. Murray Kornfeld, Executive Director, 112 East Chestnut, Chicago, Ill. 60611.
- June 16-17: American Geriatrics Society. Claridge Hotel, Atlantic City, N. J. Address: Dr. Edward Henderson, Executive Director, 10 Columbus Circle, Room 1405, New York, N. Y. 10019.
- June 17: American Association for the Study of Headache. Colony Resort Motel, Atlantic City, N. J. Address: Dr. Seymour Diamond, Executive Secretary, 5214 North Western Avenue, Chicago, Ill. 60625.
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- June 18: Prolotherapy Association. Hotel Jefferson, Atlantic City, N. J. Address: Dr. L. A. Cronan, Assistant Secretary, 604 Third Street, Davis, Calif. 95616.
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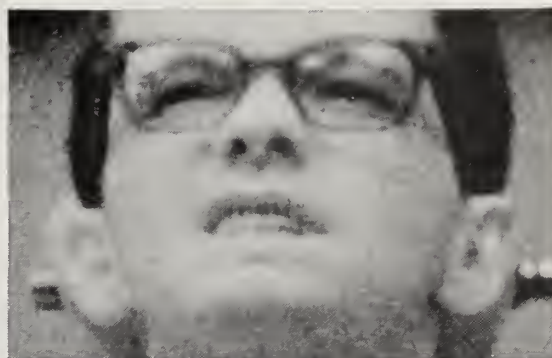
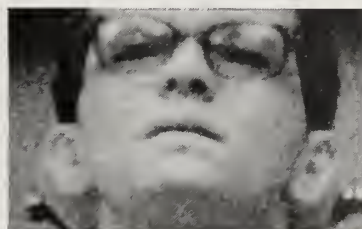
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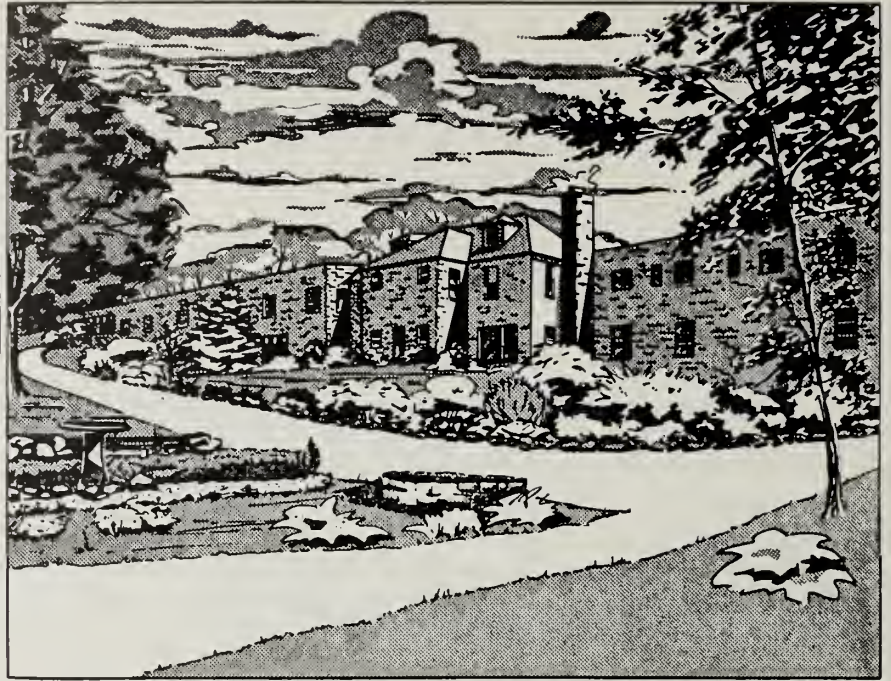
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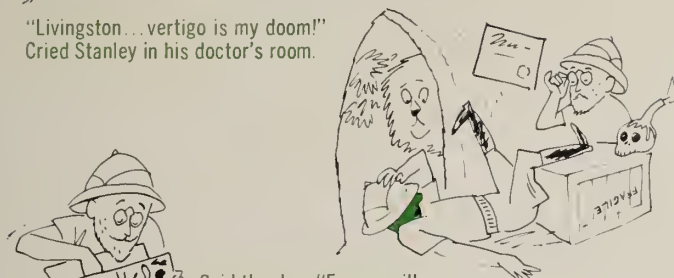
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Antivert, the leading anti-vertigo product,¹ combines meclizine HCl, an outstanding drug for treatment of vestibular dysfunction, with niacin, a drug of choice for prompt vasodilation. Prescribe Antivert for your patients with vertigo, Meniere's syndrome and allied disorders.

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gaging in activities where alertness is mandatory. **Use in women of childbearing age:** A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. Rx only.

References: 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

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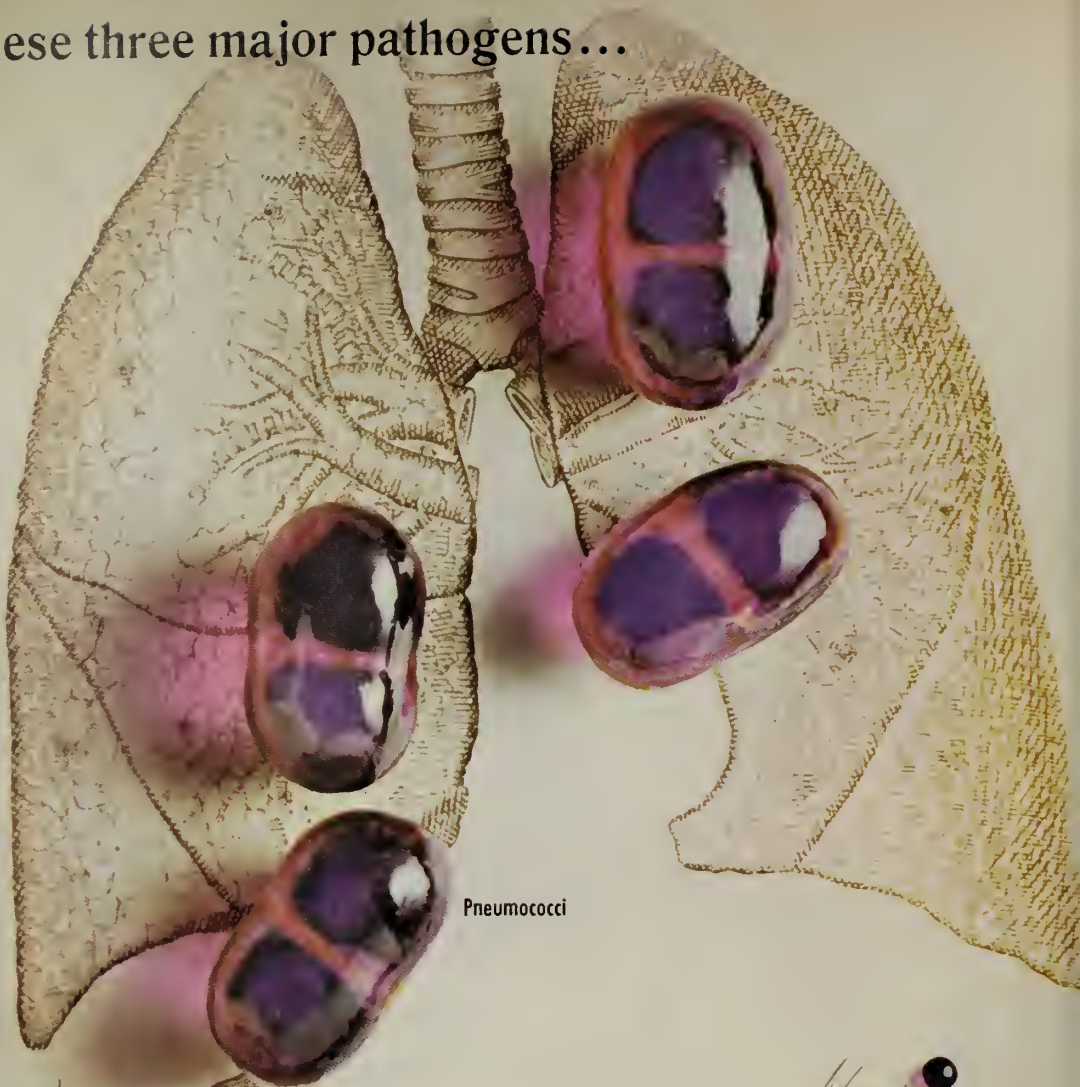
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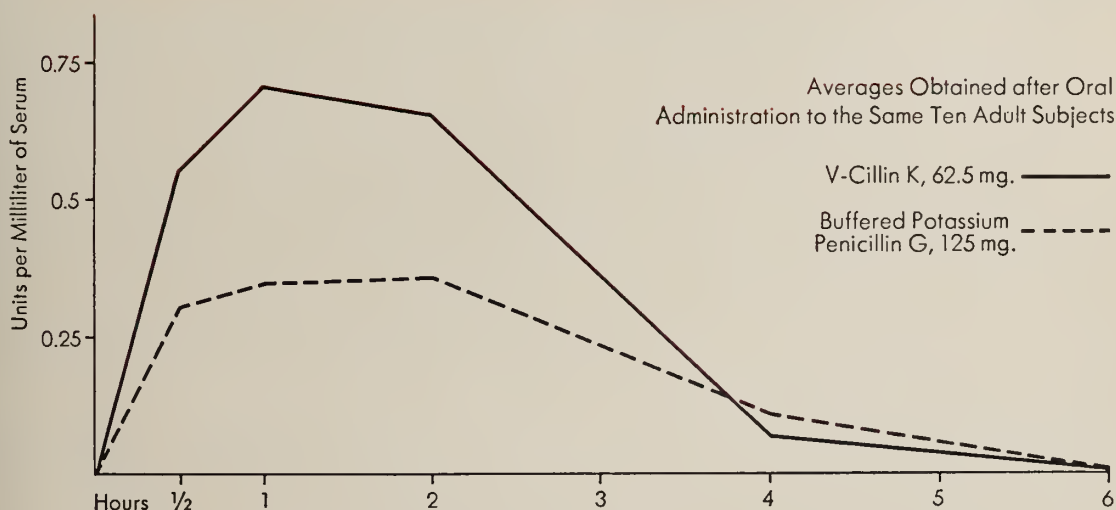
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Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food

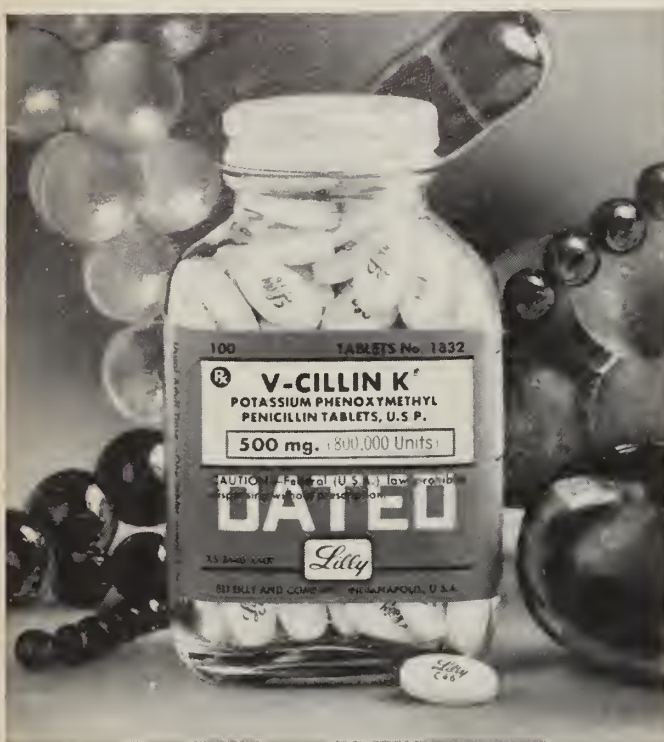


Adapted from Griffith, R. S., and Black, H. R.: Current Ther., Res., 6 253, 1964.

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(See next page for prescribing information.)

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V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxy-methyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic

manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

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Washington, D. C.

When Dr. "C" received his benefit draft for \$1,050.00 he commented that he was "most gratified to hear from Mutual of Omaha. Payment of sick benefits was made promptly, and was most appreciated at that time. I have nothing but praise for your organization and appreciate very much the privilege of holding a policy with you."

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

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VETERANS ADMINISTRATION HOSPITAL NUMBER

June 1967

Vol. XXXVI • No. 6

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Reëvaluation of Q Wave

I. A. NAVAL, M.D., J. COSMA, M.D., AND
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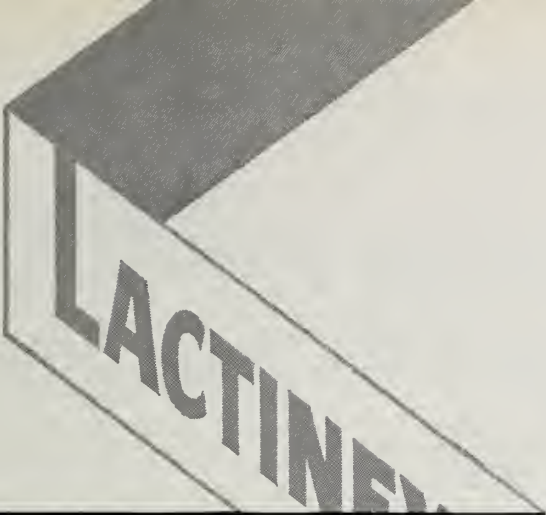
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has an atropine-like action which should be considered when prescribing diphenhydramine hydrochloride. **ADVERSE REACTIONS:** Side effects are generally mild and may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, blurring of vision, vertigo, headache, muscular aching, thickening of bronchial secretions, restlessness, and insomnia have been reported. Allergic reactions may occur.

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Literature on indications and dosage available on request.

References:

- (1) Siver, R. H.:
CMD, 21:109,
September 1954. (2)
Frykman, H. H.: Minn.
Med., 38:19-27,
January 1955. (3)
McGivney, J.: Tex.
State Jour. Med.,
51:16-18, January
1955. (4) Quehl,
T. M.: Jour. of Florida
Acad. Gen. Prac.,
15:15-16, October
1965. (5) Weekes,
D. J.: N.Y. State Jour.
Med., 58:2672-2673,
August 1958. (6)
Weekes, D. J.: EENT
Digest, 25:47-59,
December 1963. (7)
Abbott, P. L.: Jour.
Oral Surg., Anes., &
Hosp. Dental Serv.,
310-312, July 1961.
(8) Rapoport, L. and
Levine, W. I.: Oral
Surg., Oral Med. &
Oral Path., 20:591-593,
November 1965.

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A black silhouette of a person's head and torso against a red background. The person's head is tilted back, and their right hand is near their mouth. Overlaid on the silhouette is a white diagram of the human respiratory system, showing the trachea and bronchial tree. The bronchi are filled with numerous small red circles, representing the medication being administered.

IN EMPHYSEMA

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Aminophylline **dura-tabs**[®]

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Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

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'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. **Contraindications:** Comatose states or the presence of large amounts of C.N.S. depressants. **Precautions:** Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. **Side Effects:** Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with

I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

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HYDROXYZINE PAMOATE

Actions: Hydroxyzine is a rapid-acting, true ataraxic, unrelated chemically to phenothiazines, reserpine or meprobamate. It induces a calming effect in anxious, tense, psychoneurotic adults and also in anxious, hyperkinetic children without impairing mental alertness. It is not a cortical depressant, but its action may be due to a suppression of activity in certain key subcortical areas. Antihistaminic and antiemetic effects have been demonstrated clinically; skeletal and smooth muscle relaxation has been observed in experimental animals. It is rapidly absorbed in the gastrointestinal tract.

Hydroxyzine has demonstrated its clinical effectiveness in the chemotherapeutic aspect of the total management of neuroses and emotional disturbances manifested by anxiety, tension, agitation, apprehension or confusion.

Indications: Total management in conditions of emotional stress requires in most instances a combined approach of psychotherapy and chemotherapy. Hydroxyzine has been found to be particularly useful for this latter phase of therapy in its ability to render the disturbed patient more approachable and amenable to psychotherapy in long-term treatment of the psychoneurotic and the psychotic, although it should not be used as the sole treatment of psychosis or of clearly demonstrated cases of depression.

Hydroxyzine is also useful in alleviating the manifestations of anxiety and tension in situations in which the causative stress is temporary, as in the preparation for dental and other minor surgical procedures, and in acute emotional problems. It has also been recommended for the management of anxiety associated with organic disturbances such as certain types of heart disease, digestive disorders, dermatoses, senility, the menopausal syndrome, and behavior problems in brain-damaged or epileptic children.

In addition, it has been recommended as adjunctive therapy in alcoholism, and allergic conditions with strong emotional overlay, as in asthma, chronic urticaria, and pruritus.

Hydroxyzine has also demonstrated effectiveness in controlling nausea and vomiting associated with gastritis, gastroenteritis and enteritis; upper respiratory infections, influenza and pneumonia; postoperative conditions; miscellaneous diseases such as Ménière's syndrome, migraine, and vestibulitis.

Hydroxyzine for intramuscular use is especially useful in treating the acutely disturbed or hysterical patient and the acute or chronic alcoholic patient with anxiety withdrawal symptoms or delirium tremens. Used adjunctively pre- and postoperatively and pre- and postpartum, hydroxyzine allays anxiety, permits substantial reduction in narcotic dosage and controls emesis.

Clinical use of hydroxyzine as an adjunct to the management of labor has been extensively reported in the literature without evidence of harm to the mother or fetus.

Contraindications: Hydroxyzine, when administered to the pregnant mouse, rat, and rabbit induced fetal abnormalities in the rat at doses substantially above the human therapeutic range. Clinical data in human beings are inadequate to establish safety in early pregnancy. Until such data are available, hydroxyzine is contraindicated in early pregnancy.

Hydroxyzine is contraindicated in any individual who has shown a previous hypersensitivity to it. The parenteral solution is intended only for intramuscular or intravenous administration and should not, under any circumstances, be injected subcutaneously or intra-arterially.

Precautions: Drowsiness may occur with oral or parenteral use of this drug, and patients should therefore be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Since hydroxyzine may potentiate the action of central nervous system depressants, conjunctive use with these drugs requires that their dosage be decreased. Hydroxyzine reduces the requirements by as much as 50% for narcotics such as meperidine, so their use in preanesthetic adjunctive therapy should be modified on an individual basis.

As with any preparation for intramuscular injection, Vistaril (hydroxyzine hydrochloride) Parenteral Solution should be injected well within the body of a relatively large muscle such as in the upper outer quadrant of the buttock or the lateral thigh. To avoid the possibility of radial nerve injury, injections should not be made into the lower and middle thirds of the upper arm. Aspiration and proper anatomical selection of injection site should be observed as a precaution against inadvertent injection into a blood vessel or major nerve. In a few instances of reported intravenous administration of hydroxyzine hydrochloride, digital gangrene has occurred distal to the injection site, apparently the result of endarteritis and thrombosis. This event has been considered due to inadvertent intra-arterial injection, although the possibility of periaarterial extravasation, with arterial spasm, cannot be ruled out. Therefore, particular caution should be observed when hydroxyzine parenteral solution is administered intravenously to insure that it is injected only into intact veins; avoid either intra-arterial injection or extravasation. Due to infrequent phlebitis resulting from too rapid intravenous administration of the solution, the rate of injection should not exceed 25 mg. per minute. A single intravenous administration in excess of 100 mg. is not recommended (see Adverse Reactions).

Adverse Reactions: No serious side effects have been reported and confirmed in the administration of hydroxyzine to date. While therapeutic doses of hydroxyzine seldom produce impairment of mental alertness, transient drowsiness may occur; this may disappear in a few days of continued therapy or upon dosage reduction. Dryness of the mouth may be seen with higher doses. Involuntary motor activity, including rare instances of tremor and convulsions, has been reported, usually with doses considerably higher than those recommended. Extensive clinical use has substantiated the absence of toxic effects on the bone marrow or liver when hydroxyzine was administered in recommended doses for over four years of uninterrupted therapy.

When this product is given intravenously undiluted, minimal amounts of intravascular hemolysis occur at the site of injection. Giving the maximum recommended intravenous dose (100 mg.) to adults results in immediate transient hemolysis with the liberation of a total of 2-3 grams of hemoglobin, which, in some individuals, can cause small amounts of hemoglobinuria. (In the course of normal red cell destruction in the body, approximately 8 Gm. of hemoglobin are liberated every 24 hours.) Therefore, it is recommended that, when given intravenously, parenteral hy-

(Continued on succeeding page.)

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a tranquilizer...consider

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HYDROXYZINE PAMOATE

(Continued from preceding page.)

droxyzine be diluted with 50 cc. of normal saline and given during a period of four minutes or more; with this technique, drug-induced hemolysis is unlikely.

Dosage: *Oral*—Adults: Dosage varies with individual requirements and ranges from 25 mg. t.i.d. to 100 mg. q.i.d.

Children: *under 6 years*, 50 mg. daily in divided doses; *over 6 years*, 50-100 mg. daily in divided doses.

Parenteral—For adult psychiatric and emotional emergencies, including acute alcoholism—*I.M.*: 50-100 mg. Stat., and q. 4-6 h., p.r.n.; *I.V.*: 50 mg. Stat., maintain with 25-50 mg. *I.V.* q. 4-6 h., p.r.n.

Nausea and vomiting—Adults: 25-100 mg. *I.M.* or *I.V.*; Children: 0.5 mg./lb. body weight *I.M.*

Pre- and postoperative adjunctive medication—Adults: 25-100 mg. *I.M.* or *I.V.*; Children: 0.5 mg./lb. body weight *I.M.*

Pre- and postpartum adjunctive therapy—25-100 mg. *I.M.* or *I.V.*

Patients may be started on parenteral therapy when indicated by the clinical situation. They should be maintained on oral therapy whenever this route is again practicable.

As with all potent medications, the dosage should be adjusted according to the patient's response to therapy.

Supply: *Vistaril (hydroxyzine pamoate)* Capsules—25 mg., two-tone green capsules; 50 mg., green-and-white capsules; and 100 mg., green-and-gray capsules; in bottles of 100 and 500. Each capsule contains hydroxyzine pamoate equivalent to 25 mg., 50 mg., or 100 mg. of hydroxyzine HCl.

Vistaril (hydroxyzine pamoate) Oral Suspension—Equivalent to 25 mg. hydroxyzine HCl per 5 cc. teaspoonful, in 1 pint bottles.

Vistaril (hydroxyzine HCl) Parenteral Solution—10 cc. vials, 25 and 50 mg. per cc.; 2 cc. vials, 50 mg. per cc., in packages of 6 vials; Isoject,® 25 and 50 mg. per cc., 1 cc. per unit. Isoject, 100 mg. per 2 cc. unit, 50 mg. per cc.

Composition (Parenteral Solution)

Each cc. contains:	25 mg./cc.	50 mg./cc.
Hydroxyzine hydrochloride	25 mg.	50 mg.
Benzyl alcohol	0.9%	0.9%
Sodium hydroxide (approx.) to adjust to optimum pH	0.22%	0.46%
Water for Injection	q.s.	q.s.

More detailed professional information available on request.

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Over the Desk

Rheumatoid Arthritis: Rheumatoid arthritis afflicts an estimated 3.6 million adult Americans, according to statistics from the National Center for Health Statistics. About 3.2 per cent of the Nation's 111.1 million adults is estimated to have the disease.

These and a variety of other statistics were obtained in a nationwide sampling survey of adults, ages 18-79 years, conducted by the Center in 42 areas from October 1959 through December 1962.

The findings are based on special health examinations given to some 6,700 adults. Examinees are representative of the total adult population in terms of factors such as age, race, sex and geographic location.

Rheumatoid arthritis is rare among young adults but becomes increasingly common at older ages; it is more prevalent in women than in men and occurs about as often in white adults as in Negro adults. It is less prevalent in single women than in married women.

Prevalence in women mounted steadily with age, from 0.3 per cent in young adults (18-24 years) to 23.5 per cent for persons aged 75-79 years. A similar pattern prevailed for men, but only to age 65.

The survey showed that men with more education had lower rates of rheumatoid arthritis than those with less education. This trend did not prevail for women, however. Men in professional, technical and managerial positions were found to have a lower than expected prevalence of the disease.

As for family income, the survey indicated that rates of the disease were somewhat higher than expected for men earning less than \$2,000 annually. However, bread-winners with incomes from \$4,000 to \$6,999 had slightly lower rates of rheumatoid arthritis than expected.—PHS News Release, October 14, 1966.



Motorized Wheelchair: A new type of motorized wheelchair for use both on flat terrain and for climbing curbs and stairs was described recently by its Swedish inventor-physician, Dr. Per Udden, of the Medical Center, Timra, Sweden,

Continued on page 13

Over the Desk

(Continued from page 12)

in a special presentation at the Vocational Rehabilitation Administration.

Called the "Permobil," the motorized wheelchair uses ordinary auto batteries for power. It is adjustable for sidewalks and other flat terrain, or for climbing curbs and stairs, and for traveling over other rough terrain. Its electric motive power gives it a cruising range of from 6 to 9 miles and a top speed of $3\frac{1}{2}$ mph. Fingertip controls make the wheelchair suitable for use by quadriplegics and others with severely limited strength and motion in the upper extremities.

Only a few prototype models have been built thus far. Dr. Udden said there is the possibility that the "Permobil" may later become available through car rental agencies. Information can be obtained by writing to Per Udden, M.D., Chief of Technical Aids for the Handicapped, Timra Medical Center, Timra, Sweden.—News release, April 13, 1967, from Vocational Rehabilitation Administration, U. S. Department of Health, Education, and Welfare.



New Aids for the Blind. An electronic device that may some day allow a blind man to read a book, an ordinary newspaper, as well as distinguish the denomination of paper bills, was one of several devices demonstrated before the House Committee on Veterans' Affairs by researchers from the Veterans Administration. Also shown was a laser cane for the blind and a variety of artificial arms and legs which give amputee users new mobility and dexterity.

The reading machine, portable enough to be carried in a brief case, "reads" a printed page and emits audible sounds of varying pitch which the user, after training, can interpret as letters and words.

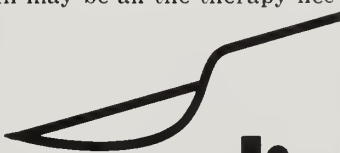
The laser cane uses laser beams to warn the user of overhanging obstacles or changes of terrain such as curbs, furniture, holes or stairwells. Three beams, transmitted in different directions, permit a sensor in the cane to make its warning in the form of a vibration in the handle and an audible signal of varying pitch.—News release, April 25, 1967, from Veterans Administration Information Service.



When eating fads of teens or tots Lead to a sudden case of "trots"

Parepectolin for quick relief of acute diarrhea
... soothes colicky pain with paregoric*
... consolidates fluid stools with pectin
... adsorbs irritants with kaolin,
and protects intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.



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Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) (1.0 dram) 3.7 ml.
Contains opium ($\frac{1}{4}$ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin (2½ grains) 162 mg.
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(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

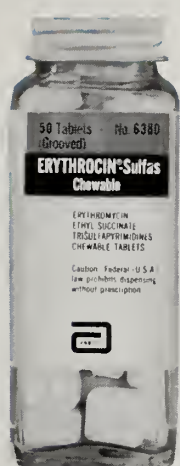


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(Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials^{1,2}, this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.



ERYTHROCIN-SULFAS Granules

(Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated^{1,2}—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%



Brief
Summary
on next
page

ERYTHROCIN®-SULFAS

Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steroids, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

701358



NATIONAL AND REGIONAL MEETINGS

June 18-22: American Medical Association, Annual Convention. Atlantic City, N. J. Address: Dr. F. J. L. Blasingame, Executive Vice President, 535 North Dearborn Street, Chicago, Ill. 60610.

June 26-29: American Orthopaedic Association. The Homestead, Hot Springs, Va. Address: Dr. Sam W. Banks, Executive Secretary, 29 East Madison Street, Chicago, Ill. 60602.

July 23-29: Southern Seminar in Obstetrics and Gynecology. Oak Grove Inn, Asheville, N. C. Address: Dr. William H. Robertson, 2700 10th Avenue South, Birmingham, Ala. 35205.

August 7-10: National Medical Association. Chase Park Plaza, St. Louis. Address: Mr. Samuel C. Smith, Administrative Secretary, 520 W Street, N.W., Washington, D. C. 20001.

August 11-13: International Doctors in Alcoholics Anonymous. Airlie, Warrenton, Va. Address: Dr. Earl H. Mitchell, 3509 Dunlop Street, Chevy Chase, Md. 20015.

August 23-26: American Physiological Society. Howard University, Washington. Address: Dr. Ray G. Daggs, Executive Secretary, 9650 Rockville Pike, Bethesda, Md. 20014.

August 27-31: American Society for Pharmacology and Experimental Therapeutics. Howard University, Washington. Dr. Ellsworth B. Cook, Executive Secretary, 9650 Rockville Pike, Bethesda, Md. 20014.

August 27-September 1: American Academy of Physical Medicine and Rehabilitation. Americana Hotel, Miami Beach, Fla. Address: Mr. Creston C. Herold, Executive Director, 30 North Michigan Avenue, Chicago, Ill. 60602.

September 1-3: Society for Clinical and Experimental Hypnosis. Washington. Dr. Ericka Fromm, Executive Secretary, 5843 University, Chicago, Ill. 60637.

September 7-9: American Association of Obstetricians and Gynecologists. The Homestead, Hot Springs, Va. Address: Dr. Robert B. Wilson, Secretary, 200 First Street, S.W., Rochester, Minn.

September 10-15: Flying Physicians Association. Williamsburg Inn, Williamsburg, Va. Address: Mr. Albert Carriere, 332 South Michigan Avenue, Chicago, Ill. 60614.

September 15-16: Tidewater Heart Association (8th Annual Cardiovascular Symposium). Golden Triangle Motor Hotel, Norfolk, Va. Address: Dr. Robert J. Robertson, Chairman, 523 Boush Street, Norfolk, Va. 23510.

September 18-21: American Academy of General Practice. Market Hall, Dallas. Address: Mr. Mac F. Cahal, Executive Director, Volker Blvd. at Brookside, Kansas City, Mo. 64112.



Vacation trip....

Motion sickness?



This time it'll be different. Emetrol taken before the trip begins will usually prevent nausea and vomiting. Emetrol is effective and safe...most helpful where safety is most important. It acts locally – not systemically.



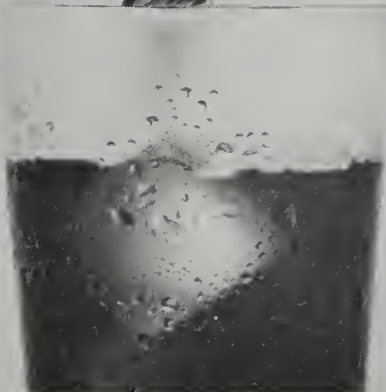
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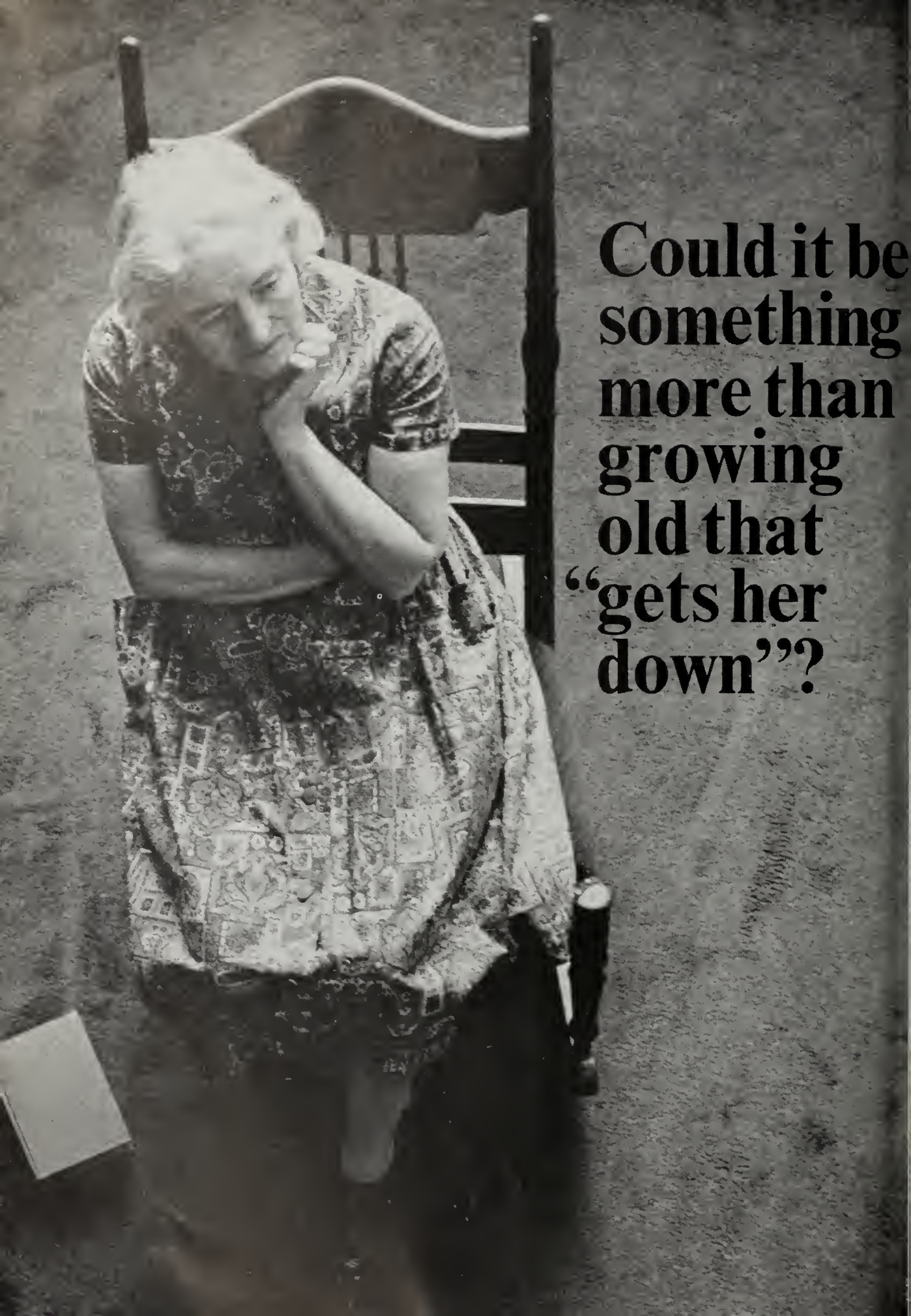
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JI. of Pediatrics
New York State JI. of Med.

California Medicine
Illinois Med. JI.
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**Could it be
something
more than
growing
old that
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†The need for these substances in human nutrition has not been established.

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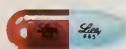
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The Radioisotope Camera as a Diagnostic Aid

Review of Scintiphotography: A New Method for Organ Visualization

BERTRAM J. L. SAUERBRUNN, M.D.,* BERGENE KAWIN, Ph.D.,† JAMES SENECAI,‡ AND THOMAS McNICKLE, B.S.‡

RADIOISOTOPIC TECHNIQUES for visualization of the solid organs and tissues of the body are exciting areas for clinical investigation. A few years ago pioneers in this field measured the distribution of radioiodine in the thyroid gland by the tedious process of hand-scanning. Starting with the initiation of the scanning concept an explosive development has occurred in the whole field of "seeing" the spatial distribution of radioisotopes within an organ. One aspect of this advance has been in the production of radioisotopes designed for specific organ localization and low radiation dose to the patient. Also, advances in biomedical engineering have provided a variety of instruments that are designed to reproduce the radioisotopic image of the organ in a faithful manner. The results of these efforts have been the development and commercial availability of the radioisotope rectilinear scintiscanner and more recently the radioisotope scinticamera.¹ To differentiate the scinticamera output from the relatively better known scintiscans, and because the mode of operation of the scinticamera bears some analogy to the photographic process, the images that it produces have been termed as "scintiphotos."

In our hospital a scintillation camera§ has been in use for more than a year. Our experience in using this scinticamera has demonstrated how certain applications of scintiphotography can be related to clinical medicine.

Principles of Design

In contradistinction to the scanner, which records activity while traversing the organ in linear stepwise fashion, the scintillation camera is a stationary device designed to view the radioactivity in an organ as a whole (figure 1).

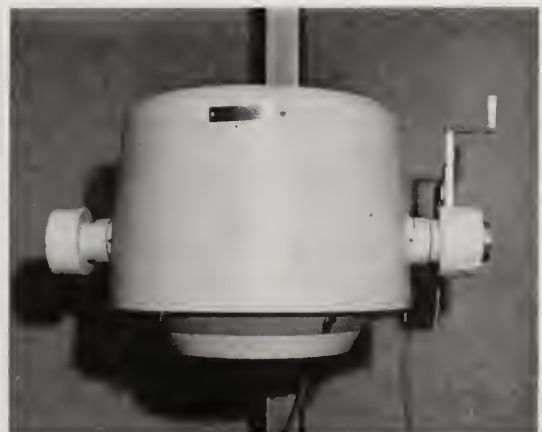


FIG. 1. Scintillation camera detector head.

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† Assistant Chief, Radioisotope Research Section, Veterans Administration Hospital.

‡ Member of Radioisotope Research Section, Veterans Administration Hospital.

§ Pho/Gamma I Scintillation Camera, a product of Nuclear Chicago Corporation.

To illustrate its operation broadly one can relate the components and functions of the scinticamera to those of the human eye (figure 2). Thus, the light source for the scinticamera corresponds to the gamma rays emitted by the radioisotope deposited in the organ. Unlike the way in which light rays are redirected by a human optic lens, gamma rays cannot be bent and focused. Instead, multichannel lead collimators serve to block out scattered radiation which is undesirable and allow the emergent linear gamma rays from the organ to impinge in parallel fashion onto the "retina" of the system.

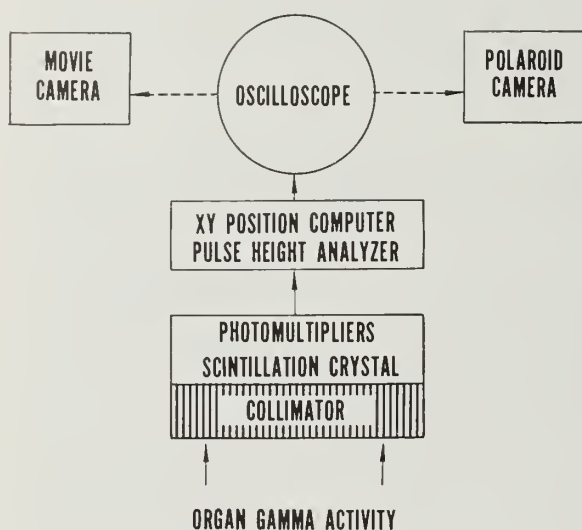


FIG. 2. Diagram of scintillation camera detection system.

The "retina" consists of a large circular sodium iodine crystal 11 inches in diameter that is backed up by a bank of photomultiplier tubes. Each collision of a gamma ray with the crystal produces a tiny flash of light (scintillation) which is in turn converted into an electrical pulse by one of the arrayed photomultiplier tubes.

Next, the electrical pulse signals from the "retina" are channeled into the "brain" of the camera control module. Computing circuits evaluate the x and y position orientation of each of the original scintillation flashes. In addition, a pulse analyzer system selects only the pulses associated with the major gamma ray emissions of the radioisotope used. Such "frontal lobe" associations then are directed into a final common pathway of electric signals to an image read-out oscilloscope. The result is that the original scintillations produced in the sodium iodide crystal are reproduced as a pattern of point sources of light on the oscilloscope. The pattern is photographed by an ordinary Polaroid® camera. The final display of organ radioactivity within the patient appears on

the 3- by 4-inch Polaroid film as white dots in a black background.

Techniques of Use

The detector system head or "retina" is encased in protective lead shielding, and although it is very heavy it is quite mobile and can be positioned in the areas of interest over the patient so that various views in the lying, sitting, or standing positions can be photographed.

Periodic checks on the output of the photomultiplier system are made to insure uniformity of response. The orientation and focus of light flashes on the oscilloscope are adjusted prior to each examination. The display of data activity on the Polaroid film may be modified by varying the intensity and the number of the flashes recorded by the oscilloscope. The number of dots recorded on the film may also be modified by selection from an option of 3 different optical lens apertures built into the oscilloscope-photography system. Film exposure time may be varied, too.

Methods of Clinical Use

We have used the scinticamera in the clinical investigation of more than 400 patients. The design of the instrument permits 3 general categories of use that are related to diagnostic study. The first, static imaging, is concerned with the detection of organ lesions. Sequential imaging is concerned with organ function. The third, kinetic imaging, is concerned with vascular perfusion of an organ.

Static imaging. The best resolution of the organ image or a lesion within the organ is obtained when the scintiphoto is taken at a time when the radioisotope has become optimally concentrated and a relatively static equilibrium of count rate has been reached.

In this mode of operation the organ appears as an accumulation of white "dots," and because of relative decrease or absence of these dots the lesion within appears as a "cold" area. This phenomenon holds true for all lesions except in organs such as the brain and bone or the hyperfunctioning thyroid nodule, in which increased dot intensity is the sign indicative of a lesion.

It can be seen that, except for a reversal of background, the scintiphoto pattern resembles the photoscan obtained with a scintiscanner.

The following case studies of static-imaging illustrate typical use of the camera. Designations indicate patient's left and right side.

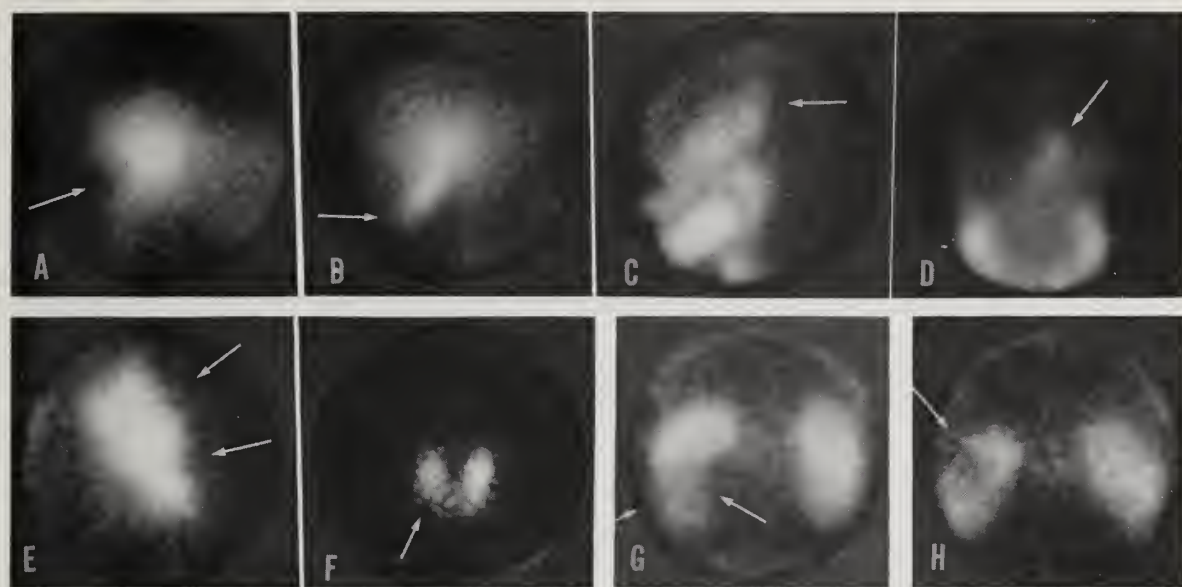


FIG. 3. A-H. Static imaging of various organ lesions. See text for description of case material. Arrows point to lesions.

Case 1. A 45-year-old febrile man complained of right flank pain and tenderness in the lower right posterior rib area. An anterior and right lateral ^{198}Au liver scintiphoto suggested an extrinsic mass. Exploration revealed a retroperitoneal abscess extending laterally (figure 3-A).

Case 2. A 50-year-old man had painless jaundice and elevation of alkaline phosphatase, and carcinoma of the pancreas was suspected. Scintiphotos with ^{131}I -cholegrafin visualized a gallbladder with concomitant excretion into the intestine of the radioactivity. Later investigation revealed drug-induced hepatitis with cholestasis (figure 3-B).

Case 3. A 55-year-old man with cerebrovascular disease had hemiplegia of 1 month's duration. Left lateral scintiphoto with $^{99\text{m}}\text{Tc}$ showed a wedge-shaped area of activity usually associated with cerebral infarction (figure 3-C; see also figure 5-B).

Case 4. A 67-year-old man had headache and nausea. Posterior and right lateral brain scintiphotos showed abnormal radioactivity in the right posterior parietal area. Surgical exploration revealed an astrocytoma (figure 3-D).

Case 5. A 50-year-old man had thrombophlebitis and pain in the right side of the chest. Posterior scintiphoto of the right lung showed 2 cold areas along the lateral border, a finding consistent with pulmonary emboli. These cleared after a month of anticoagulant therapy (figure 3-E).

Case 6. A 60-year-old man had a palpable nodule in the lower pole of the right lobe of the thyroid gland. A scintiphoto showed a cool area. Exploration revealed a cyst (figure 3-F).

Case 7. A 42-year-old man came in with a left flank mass. Scintiphotos of the kidney showed a large defect in the lower pole. Exploration showed a hypernephroma with multicyst formation (figure 3-G).

Case 8. A 40-year-old man with mitral stenosis and atrial fibrillation sustained left flank pain after cardioversion. The clinical impression was infarct of the kidney. A wedge-shaped area was noted in the left kidney scintiphoto. Another scintiphoto made after 1 month revealed that the size of the abnormal area had decreased (figure 3-H).

Sequential imaging. Multiple views of an organ are of value for confirmation of suspected lesions in static imaging. However, when a radioisotope that has high affinity for a specific organ is used, the rapid uptake and excretion can be followed in a sequential series of photos made at short, frequent intervals after injection. This procedure is valuable from the functional standpoint.

Case 9. A 38-year-old hypertensive woman's ^{203}Hg scintiphoto and scan showed a small left kidney. Following the injection of ^{131}I -hippuran the sequence of equal, early appearance of radioactivity, accompanied by delayed excretion in the left kidney suggested intrinsic renal disease rather than renovascular hypertension. An aortography was normal. Renal vein angiotension level was normal, but urea clearance was decreased in the left kidney (figure 4).

Kinetic imaging. The availability of extremely short-lived radionuclides such as $^{99\text{m}}\text{Tc}$ as the pertechnetate ion has enabled radioactivity to be used safely in millicurie amounts for diagnostic purposes. With the relatively large quantities of

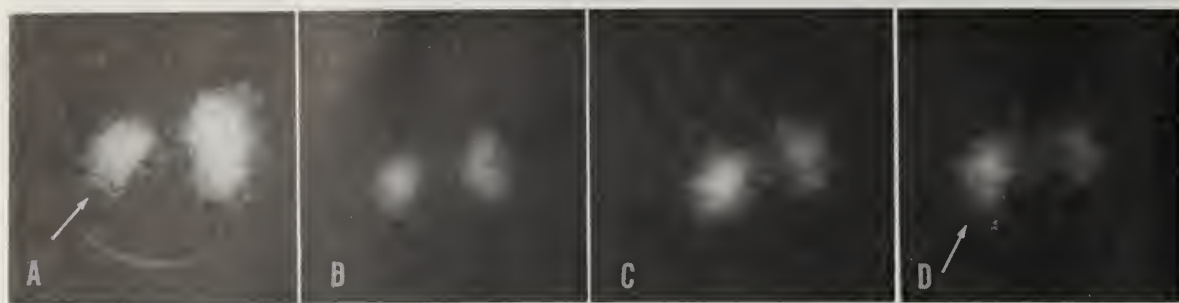


FIG. 4. Functional study of kidney. A. ^{203}Hg scintiphoto at 1 hour (note small left kidney, posterior view). B, C, D. ^{131}I -hippuran study at 5 minutes, 10 minutes, and 20 minutes after injection (note delayed excretion by left kidney, posterior view).

$^{99\text{m}}\text{Tc}$ the large number of gamma photons emitted permit scintiphotos to be obtained within extremely short exposure times. Scintiphotos can be taken very rapidly and with extremely low irradiation exposure of the patient and of the medical personnel. Because of these advantages the kinetic vascular distribution of a bolus of radioactivity through an organ region such as the heart chambers may be successfully visualized and photographed.

Organ-perfusion studies and "scintiangiograms" have been obtained in our laboratory immediately after the injection of radioactive pertechnetate ($\text{Na}^{99\text{m}}\text{TcO}_4$) into patients referred for routine brain study.

Case 10. A 65-year-old man had a normal arteriogram. Figure 5-A shows a normal carotid artery flow and cerebral arterial perfusion. Static scintiphoto and scintiscan at 1 hour were normal.

In contrast, case 3 reveals (figure 5-B) a decreased cerebral perfusion in the left. This patient's scintiphoto and scan at 1 hour were abnormal (see also figure 3-C).

Case 11. A 55-year-old man with normal renal function had a normal renal arterial perfusion as shown in figure 6-A.

Case 12. A 48-year-old hypertensive man's arteriogram revealed right renal artery stenosis. Kinetic imaging indicated impaired renal arterial perfusion on the right side (figure 6-B).

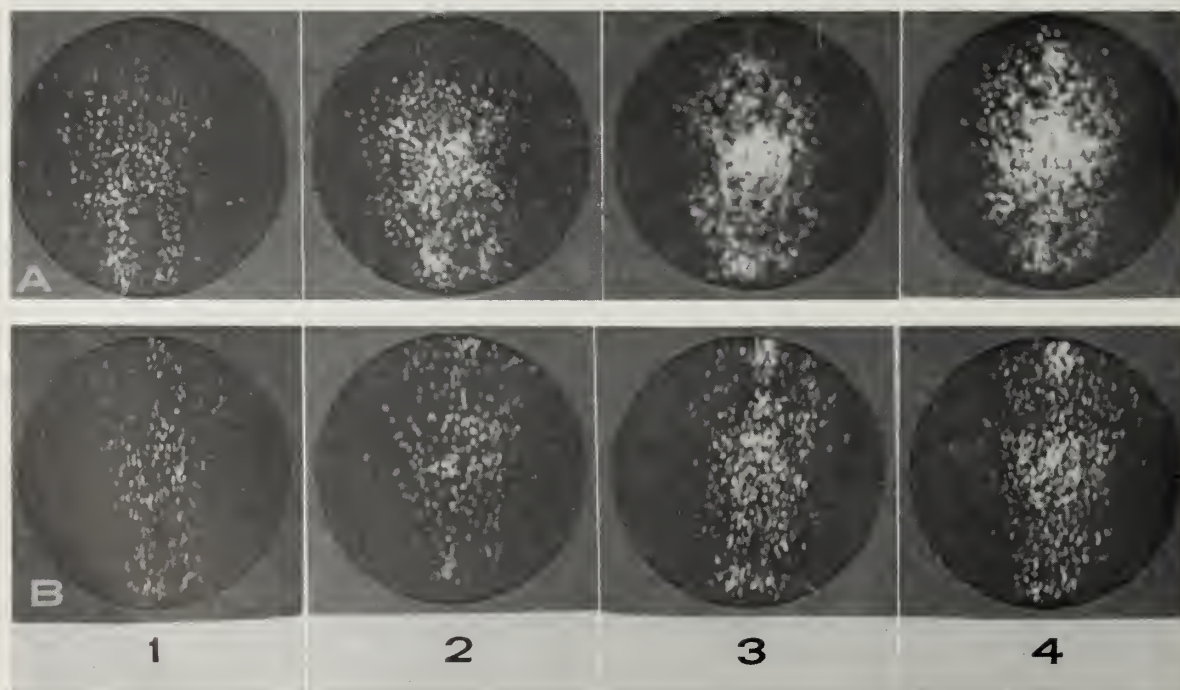


FIG. 5. Kinetic study of cerebral blood flow and perfusion: (1) 4-8 seconds, (2) 8-12 seconds, (3) 12-16 seconds, (4) 16-20 seconds. A. Normal perfusion, posterior view. B. Abnormal study (note delayed perfusion on left side, posterior view).

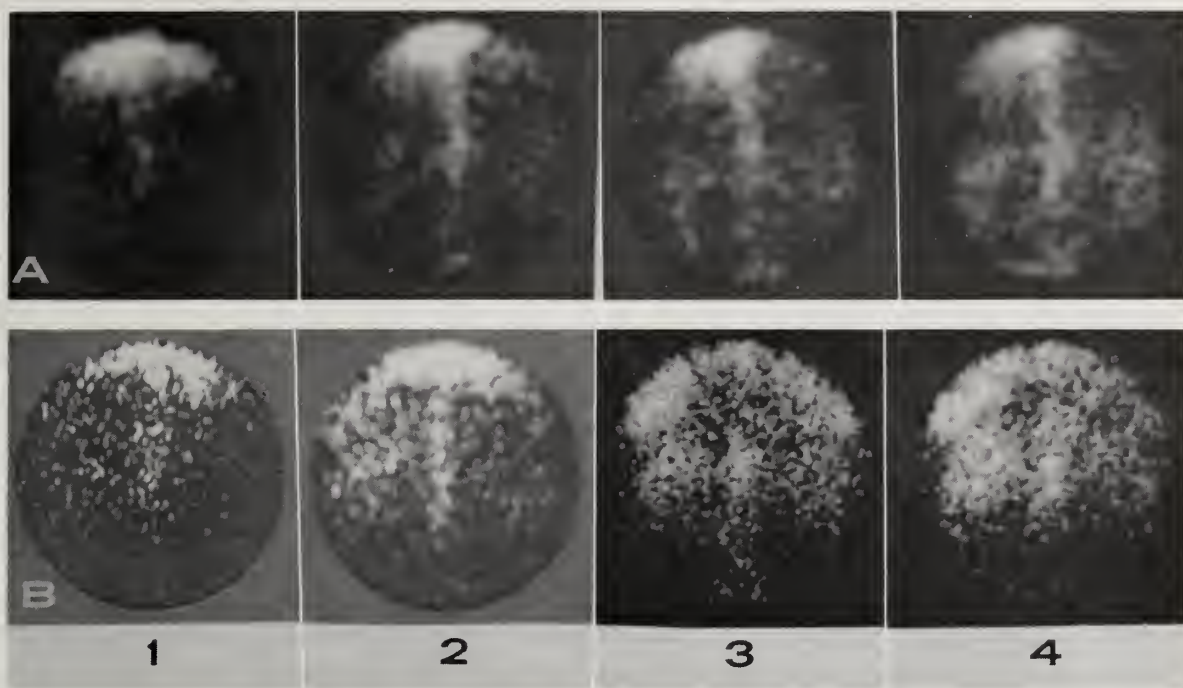


FIG. 6. Kinetic study of renal arterial perfusion at (1) 12-14 seconds, (2) 16-18 seconds, (3) 20-22 seconds, (4) 26-28 seconds, posterior view. A. Normal study. B. Delayed and poor perfusion on right side.

Case 13. A 65-year-old man demonstrated a normal scintiangiogram (figure 7). In the last photo of the series the left ventricle and aorta filled despite dilution of the radioactive bolus after pulmonary arterial perfusion.

Discussion

To evaluate the clinical applications of the scinticamera we have studied the results obtained with this new diagnostic tool after a single injection of a radioisotope³ and have compared them with similar studies duplicated on a scintiscanner*.

In our study when lesions were well defined it was generally true, as previously reported,³ that the scinticamera possessed a resolution capability

for the static imaging of organs that was similar to the conventional scintiscanner. However, the less well-defined lesions were usually more readily identified on the scintiscan than on the scintiphoto. Considering that the quality of the scanning image obtained with large crystal scanners has been reported to be superior to that obtained with the conventional 3-inch scanner,⁴ any discrepancy between the scintiphoto and the scintiscan results might have been greater for this comparison if we had used a larger crystal scanner in our duplicate study.

Overall, the total scanning time required for a complete static image study with the scinticamera was much less than with the scintiscanner. This difference was made very clear when radioactive pertechnetate ($\text{Na}^{99\text{m}}\text{TcO}_4$) was used, but the time differential was less noticeable when a

* Pho/Dot Scanner, a product of Nuclear Chicago Corporation.

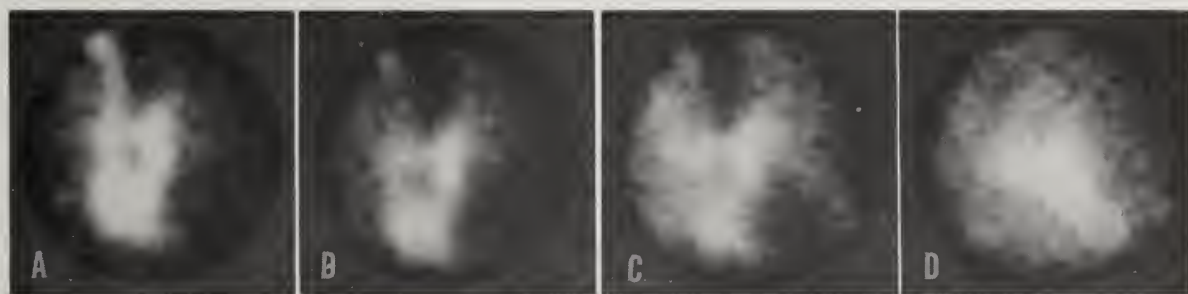


FIG. 7. Cardiac chamber visualization, anterior view: A. 2-4 seconds—vena cava, right auricle and ventricle, pulmonary conus; B. 6-8 seconds—pulmonary artery and branches; C. 10-12 seconds—pulmonary tree and lung perfusion; D. 16-18 seconds—left auricle, left ventricle, and early aortic filling.

radiopharmaceutical like ^{203}Hg -neohydrin, which yields a lower count rate, was utilized. One factor that increased the time required to complete a study with the camera was the necessity to obtain repetitive photos to help establish the proper balance of intensity and dot accumulation. Also, the proper positioning of the patient was an important factor in maximizing the clinical use of a scintiphoto. In this respect the greater versatility of scintiphotography should be emphasized, because the camera permits a study to be done while the subject is lying, standing, or sitting, and thus in some instances provides for newer or more detailed views as well as for greater patient comfort,^{2, 5} as compared to scintiscanning. Time that is lost in selection of appropriate positioning for the scinticamera could be decreased by the use of a memory oscilloscope attachment. Larger crystal scintiscanners or dual scintiscanners with 2 opposing large crystal detectors may reduce scanning times to as much as half of that needed for scanning with a 3-inch crystal scanner.⁴ As compared to scintiphotography, these instruments could effect a significant saving in time used for scanning.

Although the scintillation detector crystal now in use (figure 1) is 11 inches in diameter, the effective viewing diameter is limited to only 9 inches. Large body organs, such as enlarged liver or spleen, both lungs, or the gravid uterus, usually cannot be included within a single exposure.^{2, 4, 5} This does not necessarily detract from the diagnostic use of the scinticamera because the multiplicity of views sometimes required for such organs often aids in the perception of a lesion.^{2, 5, 6}

In some diagnostic appraisals the physical findings on examination of the patient are very important considerations. Often these may be more easily related to the scintiscan than to the scintiphoto. For instance, the location of abdominal masses by palpation bears a direct geometrical relationship to their location on the scintiscan, while in the scintiphoto the scalar dimensions of the image must be taken into account to locate a specific area accurately. For similar reasons a scintiscan may be more readily meaningful than a scintiphoto when a radiograph is superimposed onto it.

One area where the scinticamera occupies a definitely unique position is in the depiction of dynamic functional studies (figure 4) and kinetic blood flow (figures 5, 6, 7). As a screening procedure, scintiangiography offers a new approach in visualizing vascular abnormalities. Although an organ blood-flow study made with the scinti-

camera does not provide the fine resolution that is obtainable with contrast angiography, regional differences in blood flow can be detected rapidly and effectively because capillary and tissue perfusion are readily visualized. Moreover, no morbidity is associated with the scintiphotographic procedure.^{2, 6, 7}

In kinetic studies of this type time-lapse motion picture photography may be substituted for stop-action Polaroid photography.^{8, 9} Of course, use of this cinephotographic modification represents but one way to "versatilize" the presentation of the scinticamera image.

As in any laboratory situation, our observations have been limited by the capacities of the specific instruments available. However, in a field which has great potential for innovation other modifications of design promise increasing improvements. New imaging devices, whether mobile or stationary, will undoubtedly be fitted in new ways to specific clinical situations.^{4, 10}

Summary

Technical uses and characteristics of the scintillation camera have been described and the clinical applications of scintiphotography have been evaluated. Scintiphotography technique provides satisfactory radioisotopic imaging of organ lesions. It offers a valuable diagnostic approach to the study of dynamic function and kinetic distribution of blood flow in an organ.

The authors acknowledge the assistance of Mrs. Pauline Scheufler for aid in preparation of the manuscript, Miss Miriam Siegel for technical help, and the Medical Illustration Department for preparation of the illustrations.

References

1. ANGER, H. O.: Scintillation camera. *Rev. Sci. Instrum.*, 1958, **29**, 27.
2. SAUERBRUNN, B. J. L., KAWIN, B., AND McNICKLE, T.: Scintiphotography and scintiscanning, to be presented at the Annual Meeting of the Society of Nuclear Medicine in Seattle, Wash., June 20-26, 1967.
3. CRADDUCK, T. D., AND FEDORUK, S. O.: Experimental determination of the overall spatial resolution of a scintillation camera. *Phys. Med. Biol.*, 1965, **10**, 67.
4. McAFEE, J. G., AND OTHERS: Scintillation scanning with an eight-inch diameter sodium iodide crystal. *J. Nucl. Med.*, 1966, **7**, 521.
5. LOKEN, M. K., AND BUGBY, R. D.: Visualization of the lungs by scintiphotography. *Amer. J. Roentgen.*, 1966, **97**, 850.

(Continued on page 384)

Griseofulvin

A Review of the Literature and Summary of Present Usage

MERVYN L. ELGART, M.D.*

GRISEOFULVIN, the first oral antifungal antibiotic, was isolated in 1939 as a metabolite of several species of *Penicillium*.¹ Although used in botany against certain plant fungi, the substance did not assume medical significance until 1958 when Gentles² showed that oral use of griseofulvin apparently cured experimental ringworm in laboratory animals. This startling discovery was quickly seized upon and within a short time many investigators were examining all phases of this promising drug.

Initial acceptance was rapid, the drug soon becoming a staple part of the therapy of dermatophytoses. The true value of a drug, however, may not be apparent until after several years of experience. For this reason, a review of the 8 years during which this drug has been employed may be appropriate.

Pharmacology

Griseofulvin is a fermentation product of *P. griseofulvum* and several other related species of *Penicillium*.³ It is a white, crystalline powder. Its solubility in water is low, about 10 mcg./ml. at room temperature. It is much more soluble in certain organic solvents and in lipids. Ingesting griseofulvin with fatty foods or with a high-fat diet can double the blood level produced by a given dose.⁴ Because of its low solubility, attempts were made to refine the crude product. It was found that if a particle milled to a smaller size (micronized griseofulvin) is used, blood levels can be achieved with approximately half the dose.⁵ The addition of a high-fat diet again doubles the blood level.⁶

Following ingestion the drug is best absorbed in the small intestine. There is little absorption in the stomach and none in the colon.⁷ The drug is carried in the blood chiefly in a protein-bound state. The blood level drops sharply after the drug is discontinued so that, even in patients on prolonged therapy, only trace quantities of griseofulvin are

present after 72 hours and none after 96 hours.⁸ In the tissues griseofulvin is found primarily in fat, liver, skeletal muscle, and newly formed keratin. None is seen in the cerebrospinal fluid. Very little (0.4 per cent of an intravenous dose) is excreted in the urine.⁷

Griseofulvin appears in the basal layers of the stratum corneum in 48 to 72 hours and in the mid-zone of the stratum corneum in 16 days.⁹ It is presumably exfoliated with the keratinized material, but the last stage has been difficult to trace, and griseofulvin activity has not been demonstrated at the skin surface.

Side-effects

Side-effects have been infrequent and usually mild.

Headache (4 to 16 per cent) may appear when therapy is begun but frequently disappears after 1 or 2 weeks despite continued use of the drug.^{10, 11, 12}

Gastrointestinal distress (4 to 8 per cent) quickly ceases when the medication is discontinued.^{11, 12, 13}

Leukopenia (1 to 3 per cent) has been seen to be completely reversible by most investigators.^{12, 13, 14} Frequent white blood counts were the rule at first but are no longer thought to be necessary.¹⁵

Skin eruptions (about 2 per cent^{11, 12, 13}) are usually maculopapular and rarely vesicular. There have been 1 case each of serum sickness,¹² cold urticaria,¹⁶ and purpura,¹⁷ and several cases of disseminated lupus erythematosus.^{18, 19}

Drowsiness has not been prominent. However, Pillsbury²⁰ reported 2 cases of loss of judgment and vertigo in 1959. Both patients were taking 2 Gm. a day of regular griseofulvin, double the usual dose. In both the drowsiness occurred within 30 days of the onset of therapy. Neither case was proven by restarting griseofulvin after all symptoms had disappeared. In a similar case²¹ the patient's confusion was definitely related to the griseofulvin, and she was able to distinguish this from placebo therapy. This complication must be extremely rare, since few similar cases have been reported.

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Photosensitivity was first described in man as an exaggerated sunburn reaction. Only unfiltered ultraviolet light was found capable of producing this reaction.²² The porphyrin content in animals was found to be increased on a continuous griseofulvin diet.²³ When the griseofulvin was given in 1 dose a day this effect was not seen.²⁴ In normal patients griseofulvin produced slight elevations of fecal coproporphyrins.²⁵ Significant increases were seen only when the drug was purposely given to a patient with porphyria cutanea tarda.²⁶ Patients with hepatic (intermittent) porphyria also develop significant increases in porphyrin excretion, and symptoms were produced in 2 cases.^{27, 28} The drug is therefore contraindicated in porphyria.

Antifungal Effects

Griseofulvin was early shown to have a potent fungistatic activity *in vitro* against dermatophytes. The effect seems to be on the cell wall, causing splits and loss of cytoplasm.²⁹ There is some evidence to indicate that this may be mediated through a direct interference with nucleic acid synthesis.³⁰ The youngest, actively metabolizing cells are affected, while the older ones are not.

The drug has no effect on *Candida albicans* or most of the deep mycoses.³¹ However, clinical effectiveness has been seen in sporotrichosis, although potassium iodide remains the drug of choice in that condition.³² Some patients with Madura foot (due to *Nocardia brasiliensis*) also appear to have been benefited. Griseofulvin has no effect on tinea nigra palmaris.³³ Nor is it effective against tinea versicolor or erythrasma; this latter condition has been shown to be caused by a bacterium, *Corynebacterium minutissimum*, instead of a fungus as was previously supposed.³⁴

Because of this selective effect of griseofulvin it is imperative that one prove that the lesion which is being treated is caused by a dermatophyte. A simple potassium hydroxide preparation or a fungus culture should make the diagnosis relatively simple. The Wood's light may be used to advantage in the diagnosis of tinea capitis, tinea versicolor, and erythrasma.

Since the effect is fungistatic, griseofulvin only prevents further spread of the fungus. In the final analysis it is the outgrowth of skin, hair and nails that carries the organism out of the epidermis, where it is exfoliated.

Other Effects

Griseofulvin has been shown to be a vasodilator of the coronary arteries in animals,³⁵ and has had

some limited use in the treatment of angina pectoris.³⁶

Several patients with acne rosacea were noted to improve while taking the drug. Full dose was required, and the improvement was not maintained when the drug was withdrawn.³⁷

Dosage

The recommended dose has varied from 10 to 20 mg./Kg./day. This usually means 1 Gm. per day in adults, or 0.5 Gm. per day of the micronized form. This dose may be given once a day or divided into 2 or 3 doses. It is usually given with fatty meals in order to increase blood levels. Higher doses may be required during certain infections. Children require a higher dose than adults. In children weighing up to 40 Kg. 0.5 Gm. (250 mg. micronized) daily is recommended. For those between 40 and 60 Kg. 750 mg./day is given.¹⁵

Clinical Use

Tinea capitis. Of all the dermatophytoses in which griseofulvin has been used the most dramatic results have been in tinea capitis. Prior to the use of griseofulvin, shaving the head and applying topical fungicides achieved few cures, X-ray epilation often being necessary. Now most persons are cured after a few weeks of oral therapy.

Gentles' first experiments² were with guinea pigs, and he showed that griseofulvin could be found in the hair of the guinea pig after an oral dose. Other experimenters have shown that the drug is effective in both laboratory-induced and spontaneous infections in animals. This is of importance, since it is essential, especially in ectothrix ringworm, to examine and treat not only the patient but also his siblings and pets.

Most investigators have been enthusiastic about results, reporting that almost all cases of tinea capitis respond satisfactorily. Although the cases of ectothrix ringworm are most rapidly responsive, even cases caused by *Trichophyton violaceum* and *T. schoenleini* have responded well. However, it may be necessary to continue the drug up to 12 weeks in endothrix infections.^{13, 38} As new, non-infected hair begins to protrude from the hair follicle, clipping the still infected distal fragments of hair,³⁹ manual epilation, or the application of a topical fungicide are all useful therapy and shorten the course materially. One case of *T. tonsurans* which was resistant to therapy was reported.⁴⁰ This degree of success has been shown in almost all cases for the micronized particle griseofulvin.⁴¹

Dosage schedules have varied. Some have tried

a large (3 to 5 Gm.) dose of griseofulvin once a month in an attempt to establish a "barrier" to further downward growth of the dermatophyte.⁴² This has had almost a 30 per cent failure rate¹⁵ and has been much less successful in the endo-thrix infections.⁴³ It probably should be replaced by daily dosage until all evidence of infection disappears. The single large dosage may be of value in situations where there is some doubt about the patients receiving medications at home.

Tinea corporis (tinea of the glabrous skin). Excellent results have been reported consistently, usually with a 100 per cent cure rate.^{3, 35, 39} The localized infections of the body can probably be easily managed on topical therapy alone, particularly since tolinaftate has become available.⁴⁴ However, in widespread *Trichophyton rubrum* infections griseofulvin is quite effective and remains the drug of choice. Prophylactic doses of griseofulvin prior to experimental exposures to *T. concentricum* failed to protect against infection. However, the drug was quite effective in infections which are already established.⁴⁵

Tinea cruris. All patients with this form of tinea are reported to have been cured.^{11, 38, 39} The mycologic cure appears to take 6 or 8 weeks, although clinical improvement is noted in a few days. Some physicians feel that topical therapy (such as with tolinaftate) is equally effective in less extensive infections of the groin. However, in extensive cases griseofulvin remains the treatment of choice.

Tinea pedis. The acute cases respond rapidly to griseofulvin.³⁹ The chronic, scaling cases require several weeks, and as many as one-third have failed to clear up completely.³⁸ It is particularly difficult to sterilize the toe webs. Many patients with chronic *T. rubrum* infections can be controlled by griseofulvin, but even those apparently cured tend to have recurrence when griseofulvin is stopped. Combinations of griseofulvin and topical keratolytics are somewhat more promising,¹² but the fact remains that many patients continue to manifest clinical tinea pedis (usually due to *T. rubrum*) while taking griseofulvin.

Tinea manum. The most frequent infection is chronic, usually due to *T. rubrum* and is usually associated with similar infection of the feet and nails. In one series of 24 cases,⁴⁶ 4 patients were clear after 1 month, 11 more after 2 months, and 5 more after 3 months, but 4 required 4 months of therapy. Goldfarb¹¹ reported that only 82 per cent of his patients could be cured. As in chronic *T. rubrum* of the feet, some patients require continued griseofulvin therapy.

Onychomycosis. This infection, which frequently accompanies chronic tinea of the feet or hands, is a difficult therapeutic problem. Before the advent of griseofulvin these infections were treated by avulsing the nails, with a low success rate. Griseofulvin is active against this type of infection, presumably because it is impregnated in the keratin of the nail plate and therefore pushes the infection out over a period of several months. Thus, the effect depends on the outward growth of the nail plate. The usual time given for a fingernail to grow from the matrix to the free edge is 3 to 4 months and for a toenail, 5 to 6 months.

It was early realized that attempts at giving griseofulvin in a single large dose once a week or once a month in order to establish a barrier zone were ineffective.⁴⁷ Regular dosage of 1 Gm. per day of regular griseofulvin produced a more consistent improvement in fingernails. Toenails generally improve initially but may reach a plateau where no further improvement occurs.⁴⁸ In some cases 1 nail improves, while another becomes worse.³⁸ Anderson's review of the literature³ in 1965 revealed a cure rate of 89 per cent of 158 reported cases involving fingernails, and 52 per cent of 299 cases in toenails. My own experience has been somewhat closer to the results of Stevenson.⁴⁹ He was able to clear up 34 of 41 cases of fingernail infection, although 6 of these required more than 8 months of therapy. In 4 additional cases nail dystrophy persisted, although the fungus was eradicated. In 50 cases of toenail infection 16 were cleared up in 1 year and 5 more at the end of 15 months, but of these, 5 had recurred 3 months following the cessation of therapy. Similar results have been reported with the use of micronized griseofulvin.⁴¹

Avulsion of nails increases the growth rate of the replacement nail. In those cases in which only a few nails are involved, avulsion of nails followed by the use of oral griseofulvin is effective. Success was also reported in 7 cases⁵⁰ in which topical griseofulvin powder was used on the nail beds following avulsion. My own experience with a similar procedure and the use of tolinaftate solution has shown encouraging results.

Because of these considerations I believe that the use of griseofulvin in toenail infections, unless adjunct therapy with avulsion of involved nails is performed, is too costly, too prolonged, and too uncertain to be of routine clinical value.

Summary

Griseofulvin has proven itself to be a worthwhile drug in the treatment of dermatophytoses.

After 9 years of experience serious side-effects have been infrequent. Its administration with fatty meals produces optimum blood levels. Micronized griseofulvin is effective in one-half the usual dose for standard griseofulvin.

The drug is extremely effective in treating dermatophyte infections, although it has no effect on moniliasis, tinea versicolor, erythrasma, or most of the deep fungi. Infections of the hair, glabrous skin, groin, and acute lesions of the feet usually respond dramatically. Results with chronic *T. rubrum* infections of the hands and feet have been less spectacular, often requiring continuous therapy for control. Fingernail infections have responded slowly, but the majority have cleared up after 8 to 12 months. Final clearing in toenail infections has been possible in only a very few cases, even when the drug is continued for well over a year.

References

1. OXFORD, A. E., RAISTRICH, H., AND SIMONART, P.: *Biochem. J.*, 1939, **33**, 240.
2. GENTLES, J. C.: *Nature (London)*, 1958, **182**, 476.
3. ANDERSON, D. W.: *Ann. Allerg.*, 1965, **23**, 103.
4. CROUNSE, R. G.: *J. Invest. Derm.*, 1961, **37**, 529.
5. ATKINSON, R. M., BEDFORD, C., CHILD, K. J., AND TOMICH, E. G.: *Nature (London)*, 1962, **193**, 588.
6. CROUNSE, R. G.: *Arch. Derm. (Chicago)*, 1963, **87**, 176.
7. BEDFORD, C., AND OTHERS: *Ibid.*, 1960, **81**, 735.
8. WEINSTEIN, G. D., AND BLANK, H.: *Ibid.*, 1960, **81**, 746.
9. ROTH, F. J., JR., AND BLANK, H.: *Ibid.*, 1960, **81**, 662.
10. LEVIN, H. B., ALDEN, H. S., AND AJELLO, L.: *Ibid.*, 1960, **81**, 827.
11. GOLDFARB, N. J., AND SULZBERGER, M. B.: *Ibid.*, 1960, **81**, 859.
12. PRAZAK, G., FERGUSON, J. S., COMER, J. E., AND MCNEIL, B. S.: *Ibid.*, 1960, **81**, 821.
13. PIPKIN, J. L.: *Ibid.*, 1960, **81**, 813.
14. MCCUSTION, C. H., LAWLIS, M., AND GONZALES, B. B.: *Ibid.*, 1960, **81**, 766.
15. WILSON, J. W., AND PLUNKETT, O. A.: *The Fungous Diseases of Man*. Los Angeles: Univ. California Press, 1965, pp. 238-46.
16. CHANG T. W.: *J.A.M.A.*, 1965, **193**, 848.
17. SMITH, N. G.: *Arch. Derm. (Chicago)*, 1960, **81**, 981.
18. ALEXANDER, S.: *Brit. J. Derm.*, 1962, **74**, 72.
19. STEAGALL, R. W., JR.: *Arch. Derm. (Chicago)*, 1963, **88**, 218.
20. PILLSBURY, D. M.: *Ibid.*, 1960, **81**, 826.
21. LEVAN, N. E.: *Ibid.*, 1960, **82**, 637.
22. KIRSHBAUM, B. A., AND BEERMAN, H.: *Amer. J. Med. Sci.*, 1964, **248**, 445.
23. DE MATTEIS, F., AND RIMINGTON, C.: *Brit. J. Derm.*, 1963, **75**, 91.
24. HURST, E. W., AND PAGET, G. E.: *Ibid.*, 1963, **75**, 105.
25. RIMINGTON, C., AND OTHERS: *Lancet*, 1963, **2**, 318.
26. ZIPRKOWSKI, L., AND OTHERS: *Arch. Derm. (Chicago)*, 1966, **93**, 21.
27. REDEKER, A. G., STERLING, R. E., AND BRONOW, R. S.: *J.A.M.A.*, 1964, **188**, 466.
28. BERMAN, A., AND FRANKLIN, R. L.: *Ibid.*, 1965, **192**, 1005.
29. BLANK, H., TAPLIN, D., AND ROTH, F. J.: *Arch. Derm. (Chicago)*, 1960, **81**, 667.
30. McNALL, E. G.: *Ibid.*, 1960, **81**, 657.
31. EMMONS, C. W.: *Ibid.*, 1960, **81**, 700.
32. LATAPI, F.: *Ibid.*, 1960, **81**, 841.
33. VAN VELSOR, H., AND SINGLETARY, H.: *Ibid.*, 1964, **90**, 59.
34. SARKANY, I., TAPLIN, D., AND BLANK, H.: *J. Invest. Derm.*, 1961, **37**, 283.
35. RUBIN, A. A.: *J.A.M.A.*, 1963, **185**, 971.
36. PAUL, B. N., AND PAKRASHI, B. C.: *Amer. Heart J.*, 1966, **71**, 26.
37. ELGART, M. L., JACOBS, P. H., AND PUZAK, H. P.: *Bull. Ass. Milit. Derm.*, 1965, **14**, 36.
38. WEINER, M. A., GANT, J. Q., JR., AND GOULD, A. H.: *Med. Ann. D. C.*, 1961, **30**, 1.
39. PARDO-CASTELLO, V.: *Arch. Derm. (Chicago)*, 1960, **81**, 772.
40. MICHAELIDES, P., ROSENTHAL, S. A., SULZBERGER, M. B., AND WITTEN, V. H.: *Ibid.*, 1961, **83**, 988.
41. ROBINSON, H. M., JR., AND DUNSEATH, W. R.: *J. Invest. Derm.*, 1962, **39**, 65.
42. STRITZLER, C., REIN, R. L., AND ULKU, K.: *Arch. Derm. (Chicago)*, 1962, **85**, 743.
43. NOE, O., JACOBS, M., AND BERMAN, H. H.: *Ibid.*, 1961, **84**, 645.
44. ROBINSON, H. M., JR., AND RASKIN, J.: *Ibid.*, 1965, **91**, 372.
45. GONZALEZ-OCOA, A., RICOY, E., AND BRAVO-BECHERELLE, M. A.: *J. Invest. Derm.*, 1964, **42**, 55.
46. WILLIAMS, D. L.: *Arch. Derm. (Chicago)*, 1960, **81**, 769.
47. DILLAHA, C. J., AND JANSEN, G. T.: *Ibid.*, 1960, **81**, 790.
48. STERNBERG, T. H., NEWCOMER, V. D., AND REISNER, R. M.: *Med. Clin. N. Amer.*, 1961, **45**, 781.
49. STEVENSON, C. J., AND DJAVAHISZWILI, N.: *Lancet*, 1961, **1**, 373.
50. DEMIS, D. J., AND BROWN, C. S.: *Arch. Derm. (Chicago)*, 1962, **85**, 276.

Chronic Intermittent Hemodialysis: Clinical Considerations

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REGULARLY SCHEDULED intermittent hemodialysis as a substitute for renal excretory function came into the realm of possibility after reports of Quinton and associates¹ that an indwelling arteriovenous shunt had been developed out of silastic-Teflon® materials. This semipermanent access to the blood stream, when implanted into a suitable artery and vein, permits repeated hemodialysis to be carried out on a regularly scheduled basis and thus affords maintenance of the patient in a state of partial biochemical correction and relative well-being. We initiated such a program in 1963 and 12 months later reported our experience.² Since then additional patients have been treated so that reevaluation of our program to date is indicated.

Methods

Arteriovenous shunts. We have implanted into all of our patients immediately after their acceptance on the program an arteriovenous Teflon-silastic shunt according to the technique described by Scribner.^{1,3} Initially a Teflon bypass with a double break was utilized, but during the past 2 years completely silastic, single-break shunts were used with additional Teflon segments present only in the blood vessels. During the 45 months since the program was initiated, a total of 32 sets of arterial and venous cannulas were introduced into

14 patients. In some instances problems developing in an arterial or venous cannula alone necessitated replacement of this limb of the shunt. Prolonged shunt survival was thus obtained. The average survival of an arterial cannula was 5.7 months and that of the venous cannula 3.8 months. Although cannula survival in a given patient was short because of complications some patients maintained cannula function longer than others.

Table 1 lists some of the observed causes of cannula failures. Cannula failures were manifested

TABLE 1: Causes of Arteriovenous Shunt Failures

Causes of Thrombosis of 1 Cannula Leading to Replacement of Entire Set	Arterial	Venous
(a) Skin necrosis.....	0	3
(b) Arterial hypotension.....	3	4
(c) Infection.....	1	2
(d) Unknown (may have been a combination of several factors).....	12	20
Infections limited to 1 cannula, necessitating its replacement and thus prolonging A-V shunt survival.	2	3

in the majority of cases by thrombosis or clotting within the cannula leading to interruption of blood flow. Although in the majority of cases the cause of thrombosis could not be established, in some infection was clearly a factor. Thrombosis of an A-V shunt occurring early after cannulation was almost always produced by factors related to surgery, such as kinking of the cannula, hematoma or introduction of the Teflon segment into an already pathologically altered vessel. Thrombosis occurring after healing of the incisional area of a new shunt was related to infection, hematoma, or mechanical interruption of the blood flow. Occasionally hypotension was thought to have led to clotting of an A-V shunt, usually shortly after treatments with the artificial kidney. A frequent cause has been infection developing locally around the cutaneous orifices of the A-V shunt, penetrating deeper subcutaneously. Therefore, in order to

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minimize infection vigorous aseptic technique and hemostasis at the time of introduction of the new shunt have been enforced. Subsequently, cleansing of the skin and cutaneous orifices with hexachlorophene or benzalkonium chloride was employed.

In order to evaluate the incidence and type of infections occurring in arteriovenous shunts, routine cultures of the orifices were taken prior to each dialysis over a period of 10 months (table 2). Based

TABLE 2. Bacteriologic Survey, A-V Shunts, Cutaneous Orifices

(A) Random Cultures without Clinical Evidence of Infection	
11 patients, 11-month survey:	
No. routine cultures taken	134
No. negative cultures	118
No. positive cultures	16
Aerobacter	1
Albus	12
Coliform	1
Streptococcus	1
Paracolon	1
(B) Cultures with Clinical Evidence of Infection	
14 patients, 45-month survey:	
No. cultures taken	10
No. positive cultures	10
Staphylococcus aureus	8
Pseudomonas aeruginosa	2

on this experience we have concluded that only when orifices of A-V shunts appeared to be clinically infected infection was sufficient to indicate the need for antibiotics or surgical intervention.

Hemodialysis. Dialyses were carried out usually on the modified parallel flow Kiil-type dialyzer, but the Travenol-type twin coil and Dialung-laminar-flow dialyzers were also used on occasion. A central self-monitoring dialysate preparation system has been utilized since early 1966. Tap water was prefiltered but not de-ionized. Table 3 indicates the bath constituents and their concentrations. A single type of bath for all patients has

worked well, and in only 2 instances have we used special baths free of potassium. Dialyses lasted 10 to 12 hours, twice weekly, in all patients, but shorter periods were employed in each patient during the initial few dialyses to permit a gradual correction of the biochemical dysequilibrium. Patients were admitted to the hospital 30 to 45 minutes before the start of the dialysis and discharged within 60 minutes after termination of the procedure.

Where indicated, ultrafiltration was employed in order to correct for excessive fluid accumulation. To this end negative pressure in the dialyzer compartment was used primarily, but in addition hydrostatic pressure was occasionally increased in the blood compartments in order to magnify the pressure differential and thus aid fluid removal. Weight gains between dialyses in excess of 1,000 Gm. were discouraged. Initial total body heparinization of patients was accomplished with 30 to 40 mg. of intravenously administered heparin, followed by a constant infusion of 10 to 20 mg./hr. and regulated by a pump. Regional heparinization of the circuit was rarely used. However, this was necessary when dialysis was carried out within a few hours after cannulation.

Diet. Dietary restrictions of certain foods were imposed in order to minimize the rate and magnitude of inorganic acid formation with consequent effect on serum concentration of potassium, urea, and other retained products of metabolism that were not measured routinely. Restriction of sodium in the diet was the integral part of its profile, since it was utilized as a means of minimizing thirst and fluid intake and thus the effect of these 2 variables on arterial hypertension. The daily diet of our patients was adjusted to contain 60 Gm. of protein, 40 mEq. of potassium, and 20 mEq. of sodium. Two patients (D. E. and R. M.) had a more liberal sodium intake because of persisting urinary losses. The daily caloric intake of our patients was estimated as 1,800 calories or more.

Patient Material

Since the initiation of the program 14 patients have been considered and accepted for the chronic hemodialysis program. Their ages ranged from 31 to 66 years (mean of 43). The length of time they spent on the program at the time of this report was from 2 to 41 months, for a total of 187 patient-months of experience. Table 4 indicates some of the pertinent initial clinical information on each patient, their present clinical status, or that at the

TABLE 3: Composition of the Dialysate Bath

Ion	mEq./Liter
Calcium	2.5
Magnesium	1.5
Potassium	2.0
Acetate	33
Sodium	132
Chloride	105
Dextrose	200 mg. %

termination of the program. All patients were in an advanced state of chronic uremia due to irreversible renal disease, and most had various degrees of congestive heart failure, arterial hypertension, severe anemia, and electrolytic disturbances. Three patients had convulsive disorders. Six patients had end-stage chronic glomerulonephritis, proven by biopsy. Three had long-standing active pyelonephritis and 2 had polycystic renal disease. One patient had hypertensive vascular disease and nephrosclerosis. In 2 patients the etiology was not established. All were severely debilitated and required hospitalization. Performance status of the patients as indicated in table 4 is based on a scheme previously published.^{2, 4}

Patient D. E. was the only exception, and this was attributable to a state of chronic sodium depletion with extracellular volume secondary to excessive renal losses. His blood pressure was restored to slightly hypertensive levels after sodium repletion was accomplished. In general we have been unable to maintain blood pressure of our patients in the normal or near normal range in spite of vigorous salt and fluid restriction and employment of low-sodium bath in our dialysate fluid. This is contrary to the experience reported by others.⁵ Antihypertensive chemotherapy was therefore utilized in the majority of our patients as an adjunct in the management of their hypertension. Vigorous attempts to reverse blood-pressure readings from

TABLE 4: Clinical Data on 14 Patients Accepted on the Hemodialysis Program

Patient and Age (yrs.)	Diagnosis	Length on Program	Creatinine Clearance		Urine Volume 24 hrs.		Body Weight		Performance Status	
			Initial	Present	Initial	Present	Initial	Present		
		Mos.	ml. min.		c.c.		Kg.			
1. C. B. 46	Chronic pyelonephritis	41	6.7	0.1	500	50	65.0	52.8	3A	1B
2. D. B.* 37	Chronic glomerulonephritis	28	1.0	—	100	—	78.2	73.4	3B	1B
3. D. E. 41	Chronic pyelonephritis	26	8.2	1.05	3,000	1,200	74.0	79.4	3A	1B
4. D. G.† 41	Chronic pyelonephritis	19	1.5	0.4	300	50	68.0	60.0	3A	—
5. J. B.* 39	Chronic glomerulonephritis	18	0.4	—	180	—	74.8	49.2	3B	1B
6. F. S. 48	Chronic glomerulonephritis	18	0.6	0.1	100	100	72.1	63.8	3A	1C
7. J. H.‡ 50	Polycystic renal disease	15	6.0	1.3	1500	50	72.0	62.0	3A	—
8. F. C. 42	Chronic renal disease	10	0.8	0.8	600	100	92.5	98.0	3A	1C
9. T. R. 60	Chronic renal disease	8	1.5	1.4	400	400	71.4	66.2	3A	1C
10. G. M.§ 42	Nephrosclerosis	7	2.5	1.2	1500	650	46.0	41.0	3B	3A
11. L. J.* 31	Chronic glomerulonephritis	6	0.8	—	500	—	59.2	53.6	3B	1B
12. H. S. 38	Chronic glomerulonephritis	5	0.7	0.4	150	150	87.1	66.6	3B	1C
13. R. M. 47	Polycystic renal disease	2	3.2	—	800	600	54.8	52.4	3A	1C
14. V. H. 49	Chronic glomerulonephritis	2	1.4	—	300	300	70.7	60.4	3B	—

* Bilateral nephrectomy.

† Died of cardiac arrest during heart failure and bronchopneumonia.

‡ Died of septicemia originating from infected cysts.

§ Received kidney transplant.

|| Died of septicemia originating from intraperitoneal abscesses.

Significant Features

Initially all patients lost weight, some of which was clearly attributable to iatrogenic removal of excess of fluid. After a few months of dialysis "dry" weight tended to stabilize and oscillate between dialyses, primarily due to fluid retention.

Renal function was greatly impaired in all patients. Urine volume/24 hrs. was diminished in proportion to the loss of function. Creatinine clearance, used as a means of assessing residual renal function over the period of observation, deteriorated in all patients at various rates.

Hypertension was present in almost all patients at the time they were accepted on the program.

hypertensive into a normotensive range were abandoned after realizing that on several occasions arteriovenous shunts were jeopardized during periods of normotension or orthostatic hypotension which tended to develop after dialysis.

Vascular disease was manifested in several patients. Marked intimal thickening of arteries was observed during arterial cannulation, and some patients had calcifications in major blood vessels.

Metabolic effects of dialysis are shown in table 5. Adequate or good biochemical control was accomplished in most patients. In some (e.g., F. S.) better control through longer dialysis periods would have been desirable, but this was impractical for a variety of reasons.

TABLE 5: Metabolic Effects of Chronic Hemodialysis

Patient and Age (yrs.)	Serum Urea Nitrogen		Serum Creatinine		Serum Na		Serum K		Serum Ca		Serum P		Alkaline Phosphatase*		pH		X-ray Evidence of Bone Disease and/or Metastatic Calcifications
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
	Dialysis		Dialysis		Dialysis		Dialysis		Dialysis		Dialysis		Dialysis		Dialysis		
	mg./100 ml.		mg./100 ml.		mEq./L.		mEq./L.		mEq./L.		mg./100 ml.		K.A.U.				
1. C. B. 46	79.5	21.8	13.4	4.51	141	131	3.5	3.4	4.2	4.6	4.7	3.1	39.9	37.3	7.28	7.31	Ribs—several fractures. Phalanges of hands—less dense cortical margins.
2. D. B. 37	81.7	30.9	17.3	9.87	133	133	4.6	3.2	4.8	5.7	3.9	3.6	14.3	11.7	7.26	7.30	Wrists — tiny cysts. Lumbosacral spine — demineralization. Femoral heads — increased densities.
3. D. E. 41	69.8	23.3	13.3	5.86	137	133	4.2	3.1	4.6	5.5	7.1	3.9	11.9	12.1	7.17	7.25	No changes
4. D. G. 41	67.2	20.7	10.0	4.53	137	134	5.2	4.7									No data available
5. J. B. 37	83.0	20.7	10.7	3.30	135	134	5.2	3.4	4.6	5.5	4.8	3.4	10.0	9.0	7.31	7.33	Kidneys — nephrocalcinosis. Aorta — metastatic calcifications.
6. F. S. 48	103	40.9	15.1	6.50	135	135	5.4	3.1	4.5	5.4	7.2	4.4	16.8	16.0	7.35	7.36	Ribs—several fractures
7. J. H. 50	110	53.2	10.7	6.53	132	134	5.7										No data available
8. F. C. 42	91.9	34.1	14.5	6.37	136	133	4.8	3.6	4.7	5.6	9.3	6.1	10.4	8.70	7.29	7.35	Ribs — several fractures. Lumbar spine —osteocysts. Calcification in the soft tissue of subdeltoid region and around both hip joints.
9. T. R. 60	96.6	35.2	13.0	5.85	136	131	6.6	2.4	4.7	5.7	7.6	4.4	9.0	9.50	7.23	7.37	Thoracic and lumbar spine — osteoporosis. Hands — hypertrophic osteoarthritis. Aorta, arteries of pelvis, hands and wrists —calcification.
10. G. M. 42	134	36	8.0	3.5	138	143	3.3	3.7									No changes
11. L. J. 31	74.0	21.1	18.1	7.21	144	136	4.4	3.3	4.7	5.7	7.4	4.2	8.20	8.45	7.34	7.33	No changes
12. H. S. 38	103	48.9	15.2	9.29	135	134	4.7	2.1	4.8	5.6	6.6	4.1	15.1	9.23	—	—	No changes
13. R. M. 47	62.7	22.7	11.5	4.95	133	129	4.2	3.9									No changes
14. V. H. 49	84.5	35.8	8.72	4.96	133	129	4.9	4.6									No changes

* King-Armstrong units.

Chemistries: All values represent averages of 15 consecutive determinations.

Radiological examinations are based on systematic bone surveys carried out every 3 months.

Bone disease was manifest in 6 patients. Pathologic fractures occurred in 3 but healed with good callus formation. In 2 of these patients high alkaline phosphatase levels were present before and after dialysis. Inorganic phosphate and total serum calcium levels were not useful in the detection of bone disease. Hypercalcemia, which was observed on occasion immediately after dialysis, did not produce symptoms and disappeared within 24 hours. Its occurrence was thought to be related to fluctuations in the calcium content of water. Systematic bone surveys were carried out every 3 months with great attention to consistency

in technical factors in order that bone densities could be compared. This type of follow-up was found useful.

Anemia was present in all patients requiring blood replacement at regular intervals. Table 6 indicates these requirements. Patients C. S. and F. C. required less than others, suggesting significant erythropoietin activity. As time progressed blood requirements diminished in most patients, suggesting that vigorous dialysis with augmented dietary intake may play a role in this improvement. Bilateral nephrectomy, performed in 3 patients, seemingly did not alter blood requirements.

TABLE 6: Hematocrit and Transfusion Requirements of Patients on Chronic Hemodialysis Program

Patient	Length on Program (Mos.)	Monthly Blood Requirements*			Hct.†		
		Initial 3 Months	Second 3 Months	Last 3 Months	Initial 3 Months	Second 3 Months	Last 3 Months
1. C. B.	41	1	2	1	25	25	28
2. D. B.	28	5	7	2	23	23	24
3. D. E.	26	4	2	1	23	24	26
4. D. G.	19	4	3	3	20	23	23
5. J. B.	18	3	3	0.3	23	23	26
6. F. S.	18	4	5	2	22	22	23
7. J. H.	15	4	6	2	27	23	25
8. F. C.	10	1	1	1	27	26	24
9. T. R.	8	4	3	2	22	21	20
10. G. M.	7	2	2	3	24	22	23
11. L. J.	6	1	2		23	23	23
12. H. S.	6	5	2		20	21	
13. V. H.	2	2			23		
14. R. M.	2	1			24		

* Units of whole blood or packed red cells.

† Average predialysis hematocrit.

Causes of Death

These are listed in table 4. Three patients died after undergoing dialysis for variable periods of time, ranging from 2 to 19 months. In 2 of these, infection by gram-negative bacteria and resulting complications were responsible. Patient J. M. died of massive septicemia originating from infected renal cysts after refusing bilateral nephrectomy. Patient V. H. underwent peritoneal dialysis for 6 months in another institution and had several bouts of peritonitis. At the time of his start on the hemodialysis program the abdominal symptoms were still acute. Thus, exploratory laparotomy was carried out with drainage of several abscesses. Despite this he died with cachexia, hypertension, and septicemia. In 1 patient (D. G.) pulmonary infection in a setting of protracted heart failure was complicated by cardiac arrest.

Function of the Dialysis Nurse in the Program

Chronic hemodialysis with up-to-date equipment and good organizational structure of the dialyzing team has become essentially a nurse-technician procedure.⁶ Although a high premium is placed on the technical skills of the nurse in the dialysis program, in order for it to be completely successful it is advisable that the nurse move back from a purely technical and task-oriented ap-

proach to nursing care of the whole patient. In our program highly personalized care was required and the nurse had to demonstrate great sensitivity to each patient's individual needs, his fears and desires. Her success depended on skills other than those of a traditionally technical nature. Since it was the nurse who functioned most closely to the patient, it was imperative that she master all of the available relevant information that could give insight into the patient's behavior. It became apparent that an effective dialysis nurse was one who recognized her patients to be relatively helpless, sometimes frightened, and wholly dependent upon technical devices and skilled personnel. A successful dialysis nurse functioned not only as the technical initiator of dialysis, its supervisor and supporter of the physical and emotional needs of the patient, but also as a liaison between the patient and physician.

Psychologic and Social Considerations

Psychologic and social factors played a major role in the treatment regimen. This applied to the initial stages when the patient was being evaluated while his condition was worsening, when it became physically and mentally harder for him to function, and also in later stages when the patient was under treatment. Although the treatment held hope for continued living in the face of almost certain early death, the unknown features of the experience (often with frank misconceptions) detracted from any feeling of unrestrained joy at being placed on the program. Furthermore, once on it, the patient was confronted with immense problems in living.

These problems took many forms. Economic problems presented themselves at a very early stage. The patient's income may have been jeopardized, creating fear from downgrading of living standards for himself and his family. In what might be called their psychologically weakened and vulnerable state some even had visions of abject poverty.

A second problem in living involved the state of increased dependency in which patients found themselves. Our culture places great emphasis on independent thought and action and on mature acceptance of responsibility. The chronic hemodialysis patient's need to lean heavily on family members and the dependency on an inanimate machine represented a source of considerable psychologic stress.

A third problem in living, broader in its implications, involved changes in the patient's social relationships. Family activities and goals had to

be shifted as illness progressed. Some patients found their roles as bread-winners, effective disciplinarians, and decision-makers changed and taken over by other family members. The stresses and strains of treatment exaggerated weaknesses already existent within the patient's social support system and occasionally threatened further breakdown in one or many areas simultaneously.

It is toward these problems that the rehabilitation efforts of the team were directed. Based on our experiences, chronic hemodialysis patients with well integrated social support systems and good ego strength in their interpersonal relationships were able to adjust well to the treatment. Those without such support, and those who manifested marital stress, job instability, role conflict and dependency problems, found chronic hemodialysis a very difficult mode of treatment.

Summary

Fourteen patients with chronic renal disease were treated by chronic intermittent hemodialysis for periods ranging from 2 to 41 months. At the time of the initiation of their program their creatinine clearance ranged from 0.4 to 8.2 ml./min. The daily urine volume ranged from 100 to 3,000 ml. This residual renal function deteriorated at various rates. The great majority of patients showed marked improvement under treatment and they were rehabilitated to a significant degree. All patients except 1 lost weight. The dietary management consisted of 60 Gm. of protein, 40 mEq. of potassium, and 20 mEq. of sodium, with a minimum caloric intake of 1,800 calories.

Problems were encountered with the maintenance of arteriovenous shunts. A significant incidence of infection occurred leading to clotting and loss of the shunt.

Other problems in management were arterial hypertension requiring chemotherapy and low sodium concentration in the dialysate, progression of vascular disease, metabolic bone disease in about half of the patients, and persisting anemia. Death occurred in 3 patients due to causes other than uremia.

Psychological and sociological factors affecting the course of treatment are discussed.

The authors gratefully acknowledge the collaboration of Drs. John Herrmann, James Clements, from the Surgical Service; Mrs. Eleanor McKissick, from the Dietetic Service; and the staff of the Nephrology Section and Hemodialysis Center of the Veterans Administration Hospital.

References

1. QUINTON, W., DILLARD, D., AND SCRIBNER, B. H.: Cannulation of blood vessels for prolonged hemodialysis. *Trans. Amer. Soc. Artif. Intern. Organs*, 1960, **6**, 104.
2. GOMBOS, E. A., LEE, T. H., HARTON, M. R., AND CUMMINGS, J. W.: One year's experience with an intermittent dialysis program. *Ann. Intern. Med.*, 1964, **61**, 462.
3. SCRIBNER, B. H., CANER, J. E., BURI, R., AND QUINTON, W.: Technique of continuous hemodialysis. *Trans. Amer. Soc. Artif. Intern. Organs*, 1960, **6**, 88.
4. GOMBOS, E. A., METZ, H., AND CHALIFOUZ, H.: Development and organization of a large haemodialysis center. *Proc. III Conference of the European Dialysis and Transplant Association*, Lyon, France, to be published.
5. COMTY, C., ROTTKA, H., AND SHALDON, S.: Blood pressure control in patients with end-stage renal failure treated by intermittent hemodialysis. *Proc. European Dialysis and Transplant Association*, 1964, p. 209.
6. TRUSK, C. W.: Hemodialysis for acute renal failure. *Amer. J. Nurs.*, 1965, **65**, 80.

Percutaneous Stereotaxic Cordotomy for Relief of Intractable Pain

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ONE OF THE PRINCIPAL DUTIES of a physician toward his patient is the relief of painful suffering in order that the patient may live in comfort. Certainly there are many drugs which have extended greatly the physician's armamentarium for combating pain, but all too often relief is insufficient, drugs become ineffective, or the patient becomes too depressed to enjoy his life.

Surgical attempts to interrupt neural pathways that bring the pain impulse into consciousness have been made in the peripheral nerve, the neural axis, and the cerebral hemisphere.¹ Prefrontal lobotomy² and more recently cingulotomy³ have been carried out by direct surgical or by stereotaxic methods to interrupt pathways concerned with giving emotional meaning and significance to pain. Certainly the ideal treatment, often unattainable, is to get rid of the cause of the pain without risk to the patient. Barring that, we often must resort to medical or surgical interruption of pain pathways preferably without causing any impairment of body function.

Selective operative interruption of the spinothalamic pathway in the anterolateral aspect of the spinal cord was instituted by Spiller and Martin⁴ for relief of intractable pain on the side of the body opposite the side of the surgical incision. However, most of the patients undergoing this procedure have terminal malignant disease, and hence the mortality of such surgery is high (averaging about 10 per cent).^{1, 5, 6} With bilateral cordotomy a high incidence of loss of bladder control occurs, because pathways subserving micturition are located to some extent in the anterolateral quadrant of the spinal cord.⁷ Sexual functions are also lost following bilateral cordotomies. With bilateral high cervical surgical cordotomy there occurs a high incidence of death secondary to loss of respiratory control.^{1, 5, 6, 8, 9, 10} Pathways concerned with breathing also are located in the anterolateral quadrant of the upper

spinal cord enroute to the phrenic and intercostal neurons.^{11, 12} Obviously, ipsilateral weakness may occur if the incision encroaches upon the corticospinal tract behind the level of the dentate ligament.

The Stereotaxic Cordotomy

The word stereotaxic means change in location within a 3-dimensional space. The stereotaxic anterolateral cordotomy is carried out by directing a needle or probe from a position external to the body to a position against or within the anterolateral portions of the spinal cord. The target and needle are located in space by projecting their radiographic images on an anteroposterior (A-P) and a translateral X-ray film or on a biplane fluoroscopic image intensifier. The target is outlined by contrast against air or Pantopaque® in the subarachnoid space after inserting the needle between the first and second cervical laminae (the interlaminar space is too narrow at other levels). Then corrections in the position of the needle are made based upon the biplane radiographic measurements until the tip of the needle projects into the anterolateral quadrant of the cervical spinal cord. The instrument of destruction (radioactive probe or electrode passed through the needle or the bared electrically active tip of the insulated needle itself) should lie about 3 mm. from the midline of the odontoid process on the A-P X-ray view.

This technique, which is carried out only under local anesthesia and narcotic sedation, was begun by Mullan using radioactive strontium-90 against the spinal cord for 15 minutes and in later procedures direct current (1 ma. for 15 to 30 minutes) or high frequency alternating current (100 ma. for 5 seconds) passed through a tiny insulated iridium wire electrode inserted into the spinal cord through the needle.¹³⁻¹⁶ With strontium-90 the contralateral analgesia appears a few days later (99 patients). With the direct electrical current analgesia occurs in 15 to 30 minutes (84 patients). With the radio-frequency alternating current the analgesia develops in a minute or less (11 patients). Mullan¹⁶

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generally avoids bilateral lesions because bladder paralysis occurred in half of 6 such cases, and 2 respiratory deaths occurred. Rosomoff et al^{17, 18} have perfected the same technique using radio-frequency current passed through an insulated piano wire. Included in his series of 100 patients are 33 bilateral cordotomies.¹⁸ He states that ipsilateral transient paresis is uncommon, bladder and respiratory dysfunction is rare, and transient ataxia lasting only a few days is common (due to interruption of the ventral spinocerebellar tract). In a 6-month follow-up satisfactory pain relief was obtained in 92 out of 100 patients.¹⁸

author. For high cervical cordotomy the patient is placed in the supine position on a Picker® precision stretcher* which is narrow and allows transmission of X-radiation through the wooden body support (figure 1). A Siemens® mobile X-ray image intensifier† is positioned opposite the side of the cordotomy so that a P-A view of the upper cervical spine and odontoid process through the open mouth is visualized. In figure 1 this machine is so positioned, but its "C" arm quickly can be slipped into the translateral position and back again without repositioning of the machine once the proper preliminary settings are made. The



FIG. 1. Stereotaxic (left) cordotomy arrangement in radiographic room. On the left is a Picker precision stretcher. The supine head and neck of the patient are positioned to the right and under the Siemens mobile X-ray image intensifier in the center of the picture. The "C" arm is positioned for the P-A view of the odontoid process but easily slides down for a translateral view. To the right is located the Radionics stimulator and radiofrequency current generator. A metal pole is supporting nonsterile wire leads.

Lin et al^{19, 20} recently have described a percutaneous cordotomy approach below the phrenic nerve take-off to obviate the embarrassment to spinal respiratory pathways to the diaphragm. The needle electrode is inserted from an anterior approach through a lower cervical intervertebral disc and into the spinal cord. By this method bilateral lower cervical cordotomies can be carried out under local anesthesia without the danger of respiratory paralysis.

The following has been developed by the present

patient is sedated with a narcotic but must be able to cooperate and discern a sharp needle prick from a dull one. In a few cases intravenous Valium® has been used as a hypnotic. Sometimes a sheet roll must be placed under the shoulders if the head does not extend back enough in order to keep the injected air in the cervical subarachnoid space without going into the head. Approximately 1 cm. below and 1 cm. behind the mastoid tip the steri-

* Picker X-ray Corporation, Cleveland, Ohio.

† Siemens New York, Inc., New York, N. Y.

lized skin and underlying soft tissues are anesthetized with 1 per cent Xylocaine®. A no. 22 spinal needle previously coated with Epoxylite® electrode insulator* by a special coating technique is used as the active electrode. This electrode needle shown in figure 2 is inserted toward the junction of the posterior three-quarters and anterior one-quarter of the spinal canal between the first and second cervical vertebral laminae. Upon punctur-



FIG. 2. Needle-electrode arrangement. This no. 22 spinal needle has been insulated with Epoxylite except for the 2 mm. tip (active electrode). The hub has been soldered to the red lead wire. This wire lead is connected to the radiofrequency current generator and is supported by a bar (see figure 1) over the side of the patient so that this wire can be tightened, thereby elevating the needle hub anteriorly if desired. The separate black wire lead connects to the indifferent electrode. This set is gas-sterilized and supplied with a routine spinal tap tray.

ing the dura and arachnoid membranes spinal fluid will be encountered. Then 10 to 20 c.c. of air is injected. This rises and outlines the anterior border of the cervical spinal cord. The stylet is replaced and the needle readjusted so that the 2 mm. bared tip of this insulated no. 22 gauge, 3.5-inch spinal needle is directed into the anterolateral quadrant of the spinal cord under radiographic control (figures 3 and 4). Prior to insertion of this active electrode an indifferent electrode (no. 18 gauge spinal needle) has been inserted into the anesthetized suboccipital muscle. A Radionics® stimulator and radiofrequency current generator† is positioned as shown in figure 1. A black wire lead is connected to the indifferent electrode, and a red wire lead is connected to the active electrode.

Upon final positioning the patient's strength and sensation are tested. The stimulating current is then turned on at zero to 1 volt for 1 millisecond at 100 pulses per second for a few seconds. If the electrode is in correct position the patient usually feels a warm tingling sensation in the contralateral

extremities. Frequently the ipsilateral shoulder will move if the electrode is close to the accessory spinal nerve rootlets. The ipsilateral extremities will move if the electrode is too posterior in the corticospinal tracts. When the electrode is on tar-



FIG. 3. Translateral radiographic view of supine head and neck of typical stereotaxic cordotomy case. The air shadow outlines the anterior border of the spinal cord. The active needle-electrode is inserted in such a manner that its tip lies against the anterolateral quadrant of the spinal cord. By elevating the needle hub the needle tip moves posteriorly into the spinal cord.

get the radiofrequency current (500 kc.p.s.) is turned on for 10 seconds. The strength is continually tested, and if any weakness occurs the procedure is discontinued or the needle repositioned more



FIG. 4. Same case as figure 3. A-P radiographic view of head and neck. The needle tip lies about 3 mm. lateral to the projected odontoid midline in position for a left stereotaxic anterolateral cervical cordotomy.

* The Epoxylite Corporation, South El Monte, Calif.

† Radionics, Inc., Burlington, Mass.

anteriorly. Pinprick (pain) sensation is tested. Analgesia will usually begin in the foot, since the sacral nerve fibers are most peripheral in the spinothalamic tract. A progressively larger lesion brings the level of analgesia higher, possibly reaching the third cervical level. The current is increased in steps by 50 ma. If the needle electrode is actually inside the spinal cord, about 50 to 100 ma. of current is needed. If it is lying just against the spinal cord, 300 ma. of current is needed, and the time may have to be increased to 20 or 30 seconds. When over 100 ma. of current is needed, the patient experiences considerable transient pain in the neck while the current is on. Upon achieving a satisfactory analgesic level the procedure is discontinued. Vital signs and urinary function are observed on the ward.

Results

So far we have carried out this procedure on 22 patients. In 2 patients no analgesia and no side-effects occurred. In these cases we now know that insufficient current was utilized with the electrode against but not inside the anterolateral quadrant of the spinal cord. In our early cases we hesitated to use more than 100 ma. of current. In 16 patients (5 cases of neuralgia of various etiology, 11 cases of cancer) a good level of analgesia was obtained. This level varied from the knee to the third cervical level. An ipsilateral Horner's syndrome invariably occurs when satisfactory analgesia is obtained. One carcinoma patient in this series of 16 and a second carcinoma patient who had no analgesia level (but did have complete relief of his pain) had a transient severe ipsilateral hemiparesis. In each of these cases the needle tip initially had been inserted behind the dentate ligament. By tilting the hub of the needle backward the needle tip radiographically swung anteriorly, and its image appeared to be in the anterolateral quadrant. However, the needle undoubtedly caught the dentate ligament and rotated the cord so that the electrode actually lay against the corticospinal tract. Obviously, one must withdraw the needle and reinsert it more anteriorly. However, if the needle tip is too anterior, the hub effectively can be tilted anteriorly to swing the needle tip back toward the spinal cord.

There were 3 patients who died as a result of this procedure. All had terminal cancer. All deaths were secondary to respiratory arrest, with severe drop in tidal volume the principal feature. This respiratory change occurred in a few minutes after the cordotomy. The first patient had carcinoma of the left lung with fixation of the left diaphragm

and left chest pain. The right anterolateral cordotomy compromised the respiratory tracts to the right diaphragm and chest. The second patient, who had metastatic sacral chordoma, had had a surgical cordotomy in the left cervical region 2 years previously with an analgesic level at C-3. A right stereotaxic cervical cordotomy at this time effected a left analgesic level to T-1, but depression of respiratory tidal volume immediately ensued. The third patient had metastatic pancreatic carcinoma. The first stereotaxic cordotomy effected an analgesic level to C-7 on the right with no complications. The second stereotaxic cordotomy performed 1 week later effected an analgesic level up to the midthorax on the left. Over the next hour the tidal volume progressively dropped. These 3 cases clearly demonstrate 2 contraindications to this upper cervical cordotomy, reduced pulmonary function and previous contralateral upper cervical (operative or stereotaxic) cordotomy. Now we always fluoroscope to verify good diaphragmatic movement under the portable image intensifier prior to insertion of the cordotomy needle. This preliminary study confirms Mullan's and Lin's views^{16, 19} (in spite of Rosomoff's report¹⁸ of no fatalities in 33 cases of bilateral cervical stereotaxic cordotomy) that bilateral upper cervical stereotaxic cordotomies should not be done.

It appears, however, that these 2 contraindications do not apply when the cordotomy is carried out at the lower cervical level. In 3 additional patients I recently carried out stereotaxic cordotomies anteriorly through the lower cervical intervertebral discs. Two of these were bilateral cordotomies. All were successful without significant complications. Respiration was not compromised in these cases.

Conclusion

A study of the value of percutaneous stereotaxic cordotomy in cases of intractable pain has been presented. It has shown that unilateral high cervical cordotomy can alleviate contralateral pain as high as the upper arm. For midline or bilateral pain below the cervical segments bilateral lower cervical cordotomy is the method of choice. The technique of percutaneous or stereotaxic anterolateral cervical cordotomy under local anesthesia is here to stay, is a major advance in the therapy of pain, and can be applied to patients with insufficient pain to warrant an operative cordotomy as well as to patients too ill to undergo anesthesia.

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Clinical Applications of Coronary Arteriography

PATRICK J. BOWEN, M.D.,* AND GERALD I. SHUGOLL, M.D.†

OVER THE PAST 20 YEARS many attempts have been made with opaque media to outline the coronary vessels roentgenographically. Initial attempts by diGuglielmo and Guttadauro¹ by aortic root injection were succeeded by modifications of that procedure. Dotter and Frische² used balloon occlusion of the aorta; others, notably Gensini,³ induced bradycardia or cardiac arrest with acetylcholine. These techniques did not improve visualization of the coronary arteries appreciably, and the hazards of acetylcholine greatly increased the risk of the procedure.

The introduction by Sones and Shirey⁴ in 1960 of selective cinecoronary arteriography and the demonstration that the coronary arteries can be visualized with reasonable clarity and safety have added substantially to our understanding of various types of heart disease.

Although the procedure has been applied by many investigators, it is only recently that its clinical applicability has begun to crystallize.

Material and Method

Four case histories representative of the type of patients who have had coronary arteriography at the Veterans Administration Hospital, Washington, D. C. over the past 3 years were selected. They serve to illustrate areas in which coronary arteriography may contribute substantially to the understanding and management of clinical heart disease.

Type I. Chest pain of uncertain etiology.

Type II. Severe intractable angina of such severity as to warrant consideration of surgical intervention.

Type III. Cardiomegaly and congestive heart failure of uncertain etiology.

Type IV. Aortic valve disease and angina pectoris.

The method of Sones and Shirey⁴ was used.

Illustrative Cases

Case 1. R. H., a 42-year-old white man, developed chest pain at rest 2 months prior to admission. Sub-

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sequently he had it on exertion as well as at rest. The pain was described as a "burning" sensation, substernal in location with occasional extension to the left arm. Nitroglycerine relieved the pain in 5 to 10 minutes. There was also a left parasternal aching pain usually lasting hours at a time. A negative response to a double "2 step" Master was obtained. Largely on this basis it was thought that the patient did not have cardiac disease, and he was sent to this hospital for further evaluation. Physical examination was normal. The electrocardiogram was suggestive but not diagnostic of an old diaphragmatic myocardial infarction. A chest X-ray film showed a normal-sized heart. Selective coronary arteriography demonstrated complete occlusion of the right coronary artery just distal to the marginal branch with diffuse disease in the rest of the artery (figure 1). The left anterior descending artery did not fill, and the circumflex artery was diffusely narrowed.



FIG. 1. Case 1. Coronary arteriogram, left anterior oblique projection. Patient had clinically suspected angina pectoris with a negative Master's test. Note almost complete occlusion of right coronary artery (arrow).

Comment. Although it was our bedside opinion that the patient had angina, the combination of poor visualization and neurotic overlay on the part of the patient made evaluation difficult. The house staff manifested their own insecurity by their attitude toward the patient and in the use of placebo medications. Indeed, an outside physician was misled by a negative exercise test into pronouncing the patient's pains as noncardiac. The coronary arteriography proved helpful, within the

context of the clinical picture, allowing improved management of the patient.

Case 2. H. C., a 49-year-old white man, was admitted for evaluation of severe angina. Two years previously he sustained a documented acute myocardial infarction. Since that time he has had typical angina on moderate exertion and emotional stress relieved by nitroglycerine. He had 4 subsequent hospitalizations for coronary insufficiency. He was unable to work or even carry on a normal home activity. Treatment, which had included nitrates, anticoagulants, digitalis and diuretics, had not resulted in improvement. Physical examination was normal except for an atrial sound. The electrocardiogram and chest X-ray film were within normal limits. The possibility of surgical implantation of an internal mammary artery into the myocardium or other surgical assistance was discussed with the patient, who expressed his willingness. Therefore, coronary arteriography was performed to evaluate his potential for a surgical procedure. Selective coronary arteriography demonstrated a normal right coronary artery but severe segmental narrowing in the anterior descending branch of the left coronary artery about 2 cm. distal to its origin. The marginal branch of the circumflex artery showed luminal irregularity (figure 2).



FIG. 2. Case 2. Coronary arteriogram, left anterior oblique projection. Patient had severe intractable angina pectoris. Marked narrowing of anterior descending coronary artery (arrow) without evidence of significant right coronary obstruction suggests suitability for internal mammary implantation.

Comment. This relatively young patient with incapacitating angina unresponsive to all medical therapy accepted the offer of surgery. The coronary arteriogram indicated that anterior implantation of an internal mammary artery would be feasible but segmental endarterectomy would not be suitable. Surgery has not yet been performed.

Case 3. J. B., a 43-year-old Negro upholsterer, came to the hospital with swelling of the feet of 2 weeks' duration. One month prior to admission he developed a "cold" with some fever. Ten days later he developed dull substernal nonradiating pain related particularly to exertion but occurring also at rest, progressive exertional dyspnea, nocturnal dyspnea, chest tightness, and abdominal swelling. Two years previously a chest X-ray film showed a normal-sized heart. Alcohol intake had been regular and heavy. On admission the patient was acutely ill with signs of biventricular heart failure. The blood pressure was 90/82. There were jugular venous distention, basal rales, hypodynamic left ventricle, atrial and ventricular gallops, a grade 2 holosystolic apical murmur, hepatomegaly, ascites, and peripheral edema. The chest X-ray film showed marked cardiomegaly with pulmonary venous engorgement and a right pleural effusion. The electrocardiogram showed a right ventricular conduction defect and left atrial enlargement with apparent loss of anterior forces. Treatment resulted in marked clinical improvement and a reduction in heart size. Selective coronary arteriography was then performed because of the uncertainty of the etiology of the heart disease. Normal coronary arteries were visualized (figures 3 and 4). Ten days later discharge was being contemplated when the patient was found dead in bed. Autopsy revealed normal coronary arteries and biventricular hypertrophy and dilatation. There was no evidence of significant myocardial fibrosis or disease of the coronary arteries.

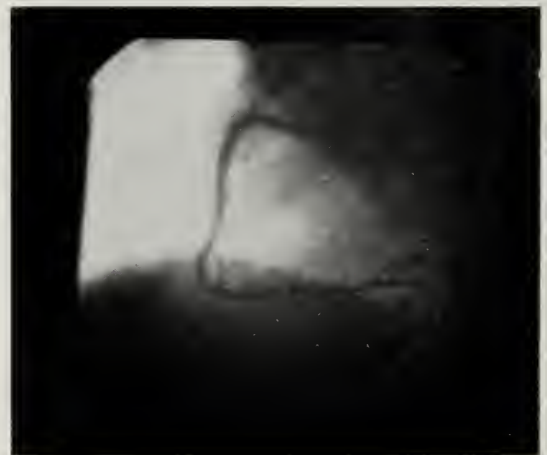


FIG. 3. Case 3. Coronary arteriogram showing right coronary artery; left anterior oblique view showing normal vessel with marginal and posterior descending branches well visualized.

Comment. The relatively sudden onset of biventricular failure in a young Negro alcoholic weighed heavily in favor of primary myocardial disease. However, the chest pain suggestive of angina, the right ventricular conduction defect, and particularly the lack of anterior forces suggesting old infarct on the electrocardiogram to-

gether strongly suggested ischemic heart disease on the basis of coronary atherosclerosis. The demonstration of normal coronary vessels by arteriography seemed to preclude a diagnosis of ischemic heart disease and confirmed the clinical impression of primary myocardial disease.

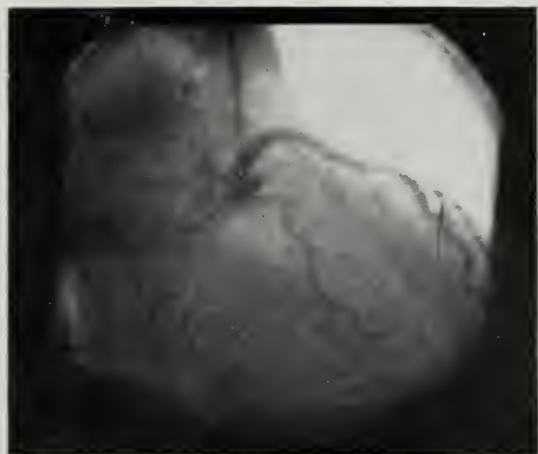


FIG. 4. Case 3. Left coronary arteriogram. Right anterior oblique projection. The normal left anterior descending, marginal and circumflex branches are shown.

Case 4. C. J., a 54-year-old white man, was admitted for cardiac evaluation. Four years earlier he had undergone decalcification and commissurotomy for aortic stenosis. His symptoms of exertional dyspnea and angina were improved for approximately 3 years. He then began suffering from substernal pressing pain, which extended to the left side of the neck and the left arm, occurring with exertion as well as at rest. Exertional dyspnea worsened. One month prior to admission the chest pains became more frequent and more severe and were associated with diaphoresis. On admission the patient was having pain. He was perspiring profusely and was dyspneic. The blood pressure was 110/80. Pulsus alternans was noted as well as a grade 2 ejection murmur in the second right interspace, a sustained diffuse left ventricular apex impulse, and atrial and ventricular diastolic gallops. Jugular veins were flat and there was no hepatomegaly or edema. The electrocardiogram showed a left ventricular conduction defect unchanged from his tracing 2 years before except possibly for some greater ST segment elevation in the chest leads. The patient was treated with morphine, digitalis and diuretics. No evolutionary changes occurred on the electrocardiogram. He gradually improved and became free of pain. Retrograde left-heart catheterization and coronary arteriography revealed a calculated aortic valve area of 0.5 cm.² and normal coronary vessels. The aortic valve was replaced with a Hufnagel caged disc prosthesis. Surgery and the post-operative course were uncomplicated, and the patient left the hospital free of symptoms.

Comment. Despite the known presence of aortic stenosis, the age of the patient made the possibility of coronary atherosclerosis reasonable. The fact that the patient had improved from previous aortic valve surgery further complicated the evaluation of his current symptoms. Coronary arteriography resolved the diagnostic dilemma and also reassured the physician as to the absence of significant coronary artery disease, making the recommendation for surgery an easier one.

Discussion

Although the diagnosis of angina pectoris in most instances is easy there are patients in whom the evaluation of chest pain is extremely difficult. The diagnosis of angina pectoris is primarily a clinical one, and the demonstration of a coronary arterial lesion by radiography should serve only to support and not make the diagnosis.

The danger of a false positive diagnosis of angina pectoris or the creation of significant doubt is self-evident. It may on occasion lead to serious social and economic disruption and indeed in some instances to permanent cardiac invalidism. The demonstration of normal coronary arteries should serve as a stimulus to seeking some other cause for chest pain and give reassuring support to both patient and physician.

It should be pointed out, however, that there are patients with a clinical syndrome resembling angina pectoris with normal coronary arteriograms.⁵ Whether these patients do indeed have true ischemic heart disease despite normal coronary arteriography is a matter for some conjecture. Studies of myocardial metabolism by Elliott et al⁵ on a group of such patients revealed an ischemic origin to the pain in only 1 instance. Thus it would seem reasonable to assume that the presence of an anginal syndrome with normal coronary arteriography suggests a nonischemic etiology for the chest pain. However, this conclusion can only be drawn in the presence of an adequate coronary arteriogram. It requires good visualization of all coronary vessels, views in different projections, and considerable experience in interpretation. The clinical implications of various anginal syndromes have been correlated with coronary arteriographic findings in recent studies.^{5, 6, 7} Thus it is that anginal pain existing for more than 3 years strongly suggests multiple vessel involvement. Nocturnal angina, prandial angina, or angina occurring at rest usually denotes triple vessel disease. In patients with electrocardiographic evidence of infarction studied by Proudfit

et al.⁷ severe arterial obstruction was demonstrated in 99 per cent. Despite these excellent correlations, however, one must be cautious in attributing atypical chest pain to demonstrated coronary arterial disease, since many asymptomatic patients have severe coronary atherosclerosis.

The demonstration by mammary arteriography of myocardial revascularization following internal mammary implantation⁸ has led to renewed interest in the use of surgery for the treatment of intractable angina pectoris.

The indications for surgery in the management of angina pectoris are not clearly defined. Nevertheless, there is general agreement that patients with severe angina not controlled by drugs should be considered for it. The angina should be present for at least a year and be of a constant character. The demonstration of arterial disease by coronary arteriography is an essential prerequisite. The more suitable surgical candidates for internal mammary implantation are those with dominant involvement of the anterior coronary circulation with only modest involvement of the circumflex and right coronary artery.⁹ Adequate vascularization of the posterior and inferior surfaces of the myocardium may not be accomplished with this technique. The rather rare patient with a localized block in the proximal part of the left coronary artery is probably more suited to coronary endarterectomy. In patients with severe right coronary or circumflex disease Vineberg¹⁰ has recently used right internal mammary implantation into the anterior part of the right ventricle, while others have used intercostal arteries, vein grafts, or the gastroepiploic artery to reach the posterior surface.¹¹ Clinical experience thus far is small, and an adequate evaluation of these techniques cannot be made at this time.

The evaluation of any drug or surgical procedure for the relief of angina pectoris is notoriously difficult. The use of coronary arteriography and postoperative internal mammary arteriography provides a most useful objective method for assessing the adequacy of any operative technique.¹² However, it will require long-term follow-up to demonstrate significant improvement in prognosis as well as symptoms.

The value of coronary arteriography in the evaluation of angina pectoris in patients with aortic stenosis is quite considerable. Although certain clinical parameters such as a history of angina beginning abruptly or a relatively normal electrocardiogram suggest the presence of coronary artery disease, in individuals coronary artery disease may not be present. Since patients under-

going surgery for aortic stenosis require perfusion of the coronary vessels arteriographic demonstration of true patency seems desirable.

The diagnostic difficulties posed by patients with unexplained cardiomegaly and congestive heart failure may be considerable. This is particularly true when chest pain and electrocardiograms simulating myocardial infarction form part of the clinical presentation. Indeed, in the older patient the distinction from ischemic heart disease may be impossible clinically. Although not contributing substantially to the specific treatment, coronary arteriography by allowing a more secure diagnosis facilitates the overall management of the patient.

Selective cinecoronary arteriography is not a simple technique, and considerable experience is required before reasonable facility is obtained. The mortality and morbidity of the procedure are extremely low. We have had no mortality and only 1 case of ventricular fibrillation, readily controlled, in the past 3 years. The diagnostic accuracy of good quality coronary arteriography has been recently shown in the studies of Kemp et al.¹³ The striking correlations established between autopsy findings and antemortem studies are contingent on good radiographic quality and experience in interpretation.

Summary

Selective coronary arteriography represents a major advance in the study and understanding of various types of heart disease. Its clinical usefulness in the evaluation of atypical chest pain, in the differential diagnosis of heart disease, in the selection of patients with angina pectoris for internal mammary implantation, and in the preoperative evaluation of patients with aortic stenosis has been discussed. Although coronary arteriography is a useful diagnostic technique it should be used primarily to complement clinical judgment and not to supplant it.

References

1. DIGUGLIELMO, L., AND GUTTADAURO, M.: *Acta radiol. (suppl. 97)*, 1952, pp. 1-82.
2. DOTTER, C. T., AND OTHERS: *Arch. Intern. Med. (Chicago)*, 1959, **104**, 720.
3. GENSINI, G. G., DIGIORGI, S., AND BLACK, A.: *Angiology*, 1961, **12**, 223.
4. SONES, F. M., AND SHIREY, E. K.: *Cine-cardiography*, in Gordon, B. L., editor: *Clinical Cardiopulmonary Physiology*, 2nd ed. New York: Grune & Stratton, 1960, p. 136.

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Reëvaluation of the Q Wave in the Electrocardiographic Diagnosis of Myocardial Infarction*

I. ALZONA NAVAL, M.D.,† JOHN COSMA, M.D.,‡ AND HUBERT V. PIPBERGER, M.D.§

MEASUREMENTS of duration and amplitude of Q waves are the most commonly used tools for making an electrocardiographic (ECG) diagnosis of myocardial infarction. Their reliability has been questioned frequently, however, and in many problem cases a more reliable indicator appears desirable. Pardee¹ advocated as early as 1930 the use of the Q/R ratio in lead III for myocardial infarct diagnosis, and Rubin² and Myers³ followed this suggestion for other leads such as aVF. Weisbart and Simonson^{4, 5} demonstrated the usefulness of this criterion in larger population studies. In spite of these reports use of the Q/R ratio has never found as widespread acceptance as the Q duration.

Quantitative reëvaluation of the various Q parameters appeared indicated, therefore, and was performed in the present study on the basis of 212 records from patients with well documented episodes of myocardial infarcts. Frank's orthogonal leads⁶ were used. Results of the reported comparisons can be equally well applied to the standard 12-lead electrocardiogram. The 0.04 sec. instantaneous vector, derived from the latter leads, has also been used occasionally for infarct recognition. It was not included in the present study, however, because such a measurement does not lend itself to quantitative evaluation when derived from leads which are not recorded simultaneously.⁷

Material and Methods

The material used in this study consisted of 212 tracings obtained from the male population of the Veterans Administration Hospital, Washington, D. C. They all had a documented history of an old infarction or clinical evidence of a recent or acute episode when the tracings were obtained. The findings suggestive or compatible with myocardial infarction from both the 12-lead electrocardiogram and orthogonal lead tracings were not made a requisite since this was the object of the study. Frank's corrected orthogonal lead system⁶ was used for electrocardiographic recording. Chest electrodes were placed at the level of the fourth intercostal space as recommended for the supine position.⁸ These tracings were recorded on magnetic tapes. The method of simultaneous recording of the 3-lead orthogonal system on analog tapes and conversion into digital form has been previously described.⁹ A digital computer (Control Data Corporation 3200) was used for processing the digital data, including measurements of waves and ratios, comparison with normal limits, and statistical evaluation.

The 3 orthogonal X, Y and Z leads correspond to the transverse, vertical and sagittal directions of the torso. Polarity used is illustrated in figure 1.

The Q/R ratio is determined by measuring the relationship between the amplitude of the Q wave and its corresponding R wave. The P-R segment served as the baseline to determine amplitudes.¹⁰ The limits of normal¹¹ were derived from 96 percentile ranges as shown in table 1.

Abnormality of the Q/R ratio varies in different leads. In X and Y it is only of value when it is above normal since a Q wave may be absent in normal records; in Z it can be either above or below normal limits depending on the anatomic location of the infarction (figure 2). Therefore, a deep Q wave in lead X will usually indicate loss of forces from the left, suggestive of a lateral infarction. A deep Q in Y suggests loss of inferior or diaphragmatic forces; in lead Z a deep Q wave

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TABLE 1: Normal Values of Various Q-wave Parameters Used in the Study¹¹

	X	Y	Z
Q/R Ratio	0 → 0.21	0 → 0.22	0.10 → 1.21
Q Duration	0 → 0.028 sec.	0 → 0.032 sec.	0.020 → 0.048 sec.
Q Amplitude	0 → 0.25 mv.	0 → 0.29 mv.	0.09 → 0.93 mv.

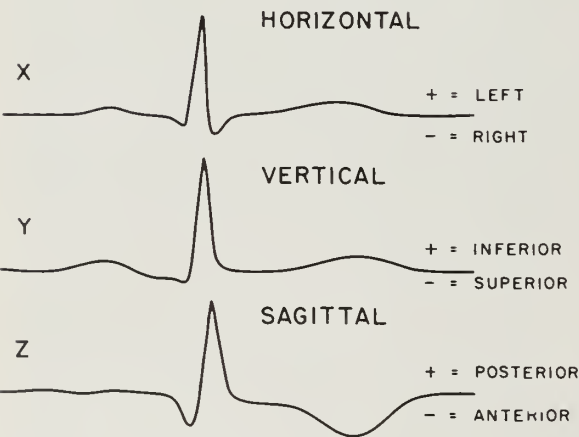
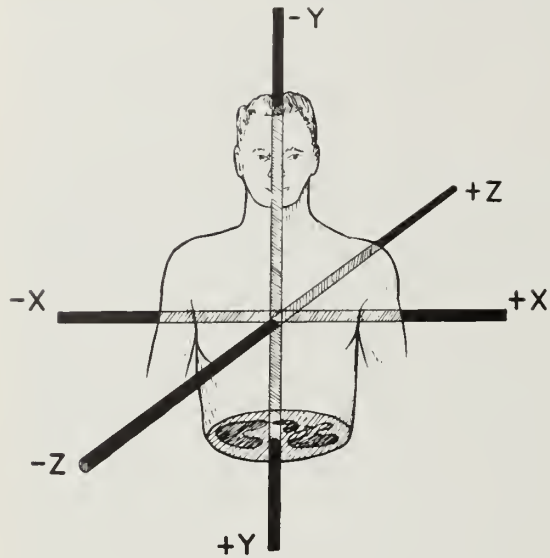


FIG. 1. Polarity of the corrected orthogonal leads X, Y and Z. Note that negativity in the sagittal lead Z indicates anterior direction and positivity posterior direction in contrast to the polarity of the first precordial leads V₁ and V₂.¹⁷

may indicate loss of posterior forces (Q/R_Z above normal) or a high posterior infarction. A small or absent Q wave, however, (Q/R_Z below normal) indicates frequently loss of initial anterior forces suggestive of anteroseptal infarction. Apical infarcts may lead to a combination of abnormal patterns. They are usually seen in X and Y, some-

times in Y and Z, and rarely in X, Y and Z, depending on the extent of the infarction. As to whether there are 2 separate areas of infarction or just 1, located at the apex, can be determined with certainty only by autopsy.

Results

Table 2 shows the overall frequency of abnormalities in the 3 different leads. The Q/R ratio

TABLE 2: Total Number and Percentages of Q-wave Abnormalities Found in 212 Records from Patients with Myocardial Infarcts*

	X	Y	Z
Q/R Ratio.....	21 (10%)	89 (42%)	97 (46%)
Q Duration.....	21 (10%)	58 (27%)	14 (7%)
Q Amplitude.....	8 (4%)	39 (18%)	10 (5%)

Cases without any Q abnormality: 36 (17%)

* Note that the total number of cases was used here and no attempt was made to classify the cases according to the infarct location.

in lead Z showed the highest incidence, with 97 cases (46 per cent of total) outside normal limits. The Q_Z duration was abnormal in only 14 cases (7 per cent) and the Q_Z amplitude in 10 cases (5 per cent).

A similar relationship was found in lead Y, where the Q/R ratio was found abnormal in 89 cases (42 per cent). ECG diagnosis of myocardial infarct could be made by Q_Y duration in only 58 cases (27 per cent), therefore missing as many as 31 cases or 15 per cent. The Q_Y amplitude was outside normal limits in even fewer records (37 cases or 18 per cent). In lead X, where Q abnormalities occur less frequently, no difference in the incidence of abnormal Q/R ratios and Q durations was noted. The Q amplitude was found in lead X, again the poorest indicator of abnormality, with only 8 cases (4 per cent) outside normal limits.

In table 3 an attempt was made to identify cases which could be diagnosed only by one single Q criterion. Such a listing indicates the relative importance of the various measurements and can

serve as a practical guide for selection of the most powerful criteria in diagnostic discrimination. A total of 62 cases (29 per cent) would have been missed completely if the Q/R ratio had not been measured. In 5 cases (2 per cent) Q duration was the only abnormality present. The Q amplitude did not contribute independently to recognition of a single abnormal case.

TABLE 3: Number and Percentage of Patients Who Showed Only 1 Q-wave Abnormality*

	X	Y	Z	Total
Q/R Ratio...	1 (0.4%)	16 (7.5%)	45 (21%)	62 (29%)
Q Duration...	1 (0.4%)	1 (0.4%)	3 (1.4%)	5 (2%)
Q Amplitude...	0	0	0	0

* Note that the number of cases with only an abnormal Q duration was very small. This indicates that most cases with abnormal Q duration in table 2 had also an abnormal Q/R ratio.

cases fell into the normal range (figure 4). Only extreme cases showed a Q_Y amplitude exceeding a normal limit of 0.29 mv. (figure 5).

The overlap between normal and abnormal, as shown in the distribution curves, gives an estimate of the number of false positive and false negative diagnoses which can be expected for each Q measurement. Since no ECG criterion is known to lead to a complete separation between normal and abnormal, the goal in ECG investigations is always the identification of those measurements which exhibit the least overlap and hence the best separation.

Discussion

From the results of the present study it can be concluded that the Q/R ratio is largely superior to other Q-wave measurements in the diagnosis of myocardial infarction. This finding leads to a

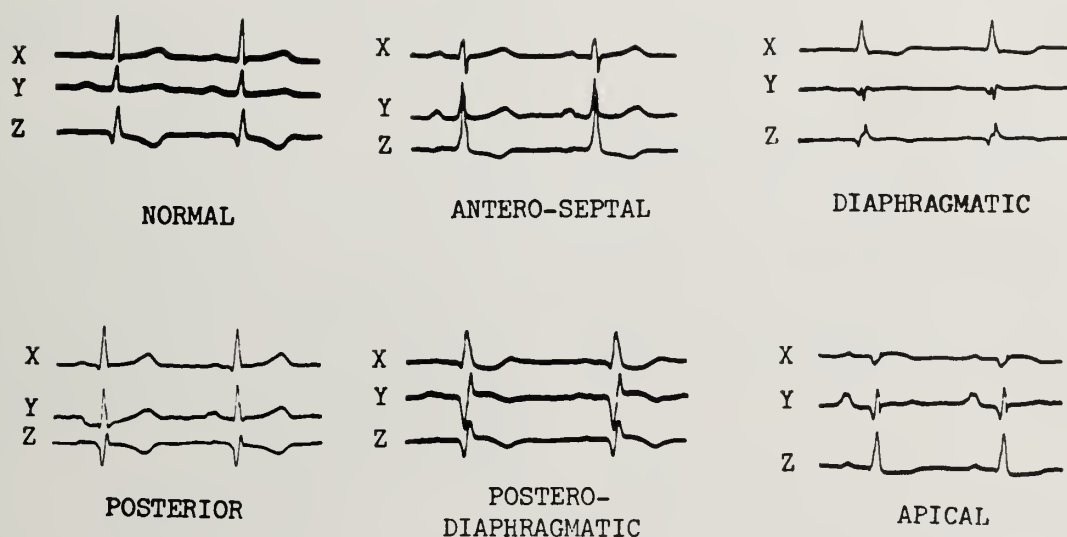


FIG. 2. Orthogonal ECG records from normal subjects and patients with myocardial infarcts. Some of the most frequent localizations are shown.

The distribution curves of normal and abnormal Q-wave findings in figures 3, 4 and 5 illustrate the problem in ECG diagnosis of myocardial infarcts. Regardless of which measurement is selected, there always appears a sizable overlap between normal and abnormal. For illustration purposes only those records were used which were interpreted as posterodiaphragmatic infarcts. The records were selected on the basis of Q_Y abnormalities and/or autopsy findings.

As expected from the figures in tables 2 and 3 the least overlap was found for the Q/R_Y ratio. When a normal limit of 0.032 sec. for Q_Y duration was considered, approximately half of the infarct

substantial simplification of ECG analysis because Q/R ratios can be fairly accurately estimated in most cases, and actual measurements need to be taken only in borderline cases. It is surprising to note that the Q duration has maintained in the past such a favorite position as the most frequently applied ECG criterion in spite of numerous reports on the merits of Q/R ratios.¹⁻⁵ It was only in the horizontal lead X where Q/R ratios and Q durations were found comparable in diagnostic performance. In all other leads a substantial number of abnormalities would have been completely missed without Q/R ratios.

The superiority of this latter criterion should

not be surprising, because such ratios contain by definition information from more than 1 parameter. Whereas the Q wave by itself indicates a loss of initial electromotive forces a decrease of the following R wave indicates the same pathologic process in a later phase of depolarization. In extreme cases this may lead to a QS-complex, but in most infarct cases the R wave following the initial is only decreased. Both of these changes are expressed best as the ratio between an increased Q wave and a decreased R wave.

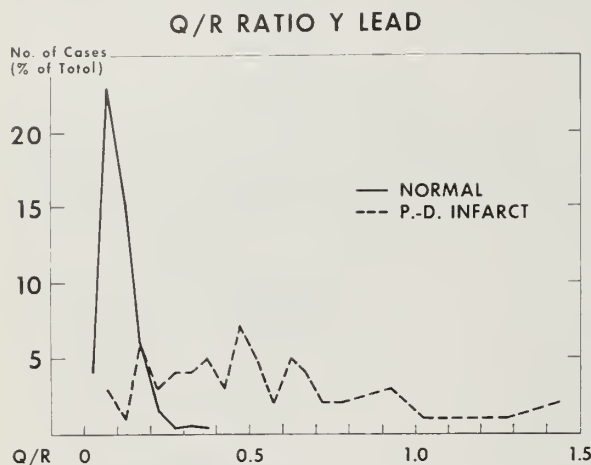


FIG. 3. Distribution curves of Q/R ratios in lead Y from normal subjects¹¹ and patients with posterodiaphragmatic infarcts. The upper limit of normal was taken as 0.22. Note in this and the following illustrations that ECG measurements are rarely normally distributed. The overlap between normal and abnormal for the Q/R ratio is relatively small.

As mentioned above, errors in estimates or measurements of voltage ratios are relatively small. Studies on interindividual and intra-individual variability of Q-duration measurements have revealed, however, a large degree of inconsistency.¹²

The considerable overlap between normals and abnormals as shown in the various distribution curves (figures 3, 4, 5) is very characteristic for ECG diagnosis if not for clinical medicine in general. A sharp line to separate one from the other cannot be drawn. Any shift of the differentiating limit to increase the number of positive diagnoses is invariably accompanied by an increase in false-positive diagnoses. Sensitivity and specificity of diagnostic criteria can be changed at will by moving the limits of normal or abnormal, but the gain in sensitivity of a diagnostic criterion is always negated by a loss in specificity. The ultimate goal should be, therefore, a reduction of the total number of misclassifications.

The number of false-negative diagnoses of 36 (17 per cent) in the present study is relatively small when compared to reports from the literature.^{13, 14, 15} Two factors may be responsible for

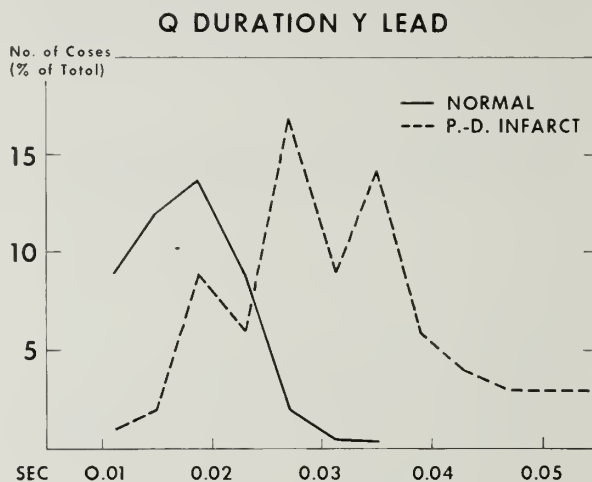


FIG. 4. Distribution curves of Q durations in lead Y from the same samples shown in figure 3. Note the larger overlap between normal and abnormal as compared to Q/R ratios.

this discrepancy. The cases reported here included 55 cases (26 per cent) with acute or subacute infarcts, where ECG abnormalities, even without consideration of ST and T changes, are more prominent. The improved separation between normal and abnormal through the use of corrected orthogonal leads may have also contributed to the results.⁹ Since the study was concerned primarily with a comparison of Q-wave criteria the total numbers of correct and incorrect classifications are of lesser importance here.

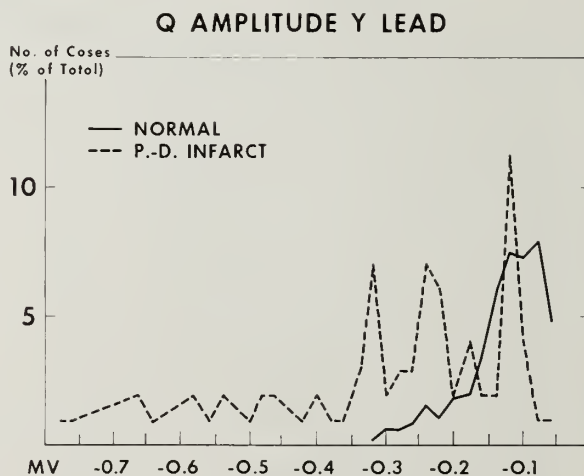


FIG. 5. Distribution curves of Q amplitudes in lead Y from the same samples shown in figures 3 and 4. Note the extreme overlap between normal and abnormal which makes this measurement unsuitable for diagnostic differentiation.

The described Q-wave criteria can be used, of course, as well in the analysis of conventional 12-lead electrocardiograms.¹⁶ Orthogonal lead X corresponds most closely to lead I, aVL, V₅ or V₆. The vertical lead Y is similar to leads II, III or aVF, whereas lead Z has its counterparts in V₁ or V₂. Different limits for the normal Q/R ratio have to be used, however. In lead III, or preferably aVF, ratios of 0.25 or larger are considered abnormal¹⁻⁵ and suggestive of diaphragmatic infarction. In the precordial leads V₁ and V₂ an R/S instead of Q/R ratio has to be used because of the reversed polarity of these leads.¹⁷ A normal limit of 1 for this R/S ratio has been found efficient in the diagnosis of high posterior infarcts.¹⁸ A QS-complex in the same leads would correspond to a simple R wave without Q in orthogonal lead Z.

The diagnostic significance of abnormal Q-wave durations should not be completely neglected. In questionable cases it may provide an essential clue either by corroborating a borderline Q/R finding, or in an occasional case (approximately 1 out of 50) it may represent the only abnormality.

Summary

The diagnostic performance of various Q-wave measurements was evaluated in a series of orthogonal electrocardiograms obtained from 212 cases with a well-documented history of myocardial infarction. Q-wave durations, Q-wave amplitudes, and Q/R ratios were compared with a digital computer for data processing and analysis.

Diagnostic recognition rates of Q/R ratios exceeded those of Q duration and Q amplitude by a wide margin. Sixty-two cases or 29 per cent of the infarct diagnoses would have been missed without measuring the Q/R ratio. The Q-wave duration was found to be the only abnormality in 5 cases, or 2 per cent of the series. Only in the horizontal lead X, which is comparable to leads I, aVL, V₅ or V₆ of the conventional electrocardiogram, was the performance of Q/R ratios approximately equal to Q durations. The Q-wave amplitude did not contribute independently to diagnostic performance. These results suggest that Q/R ratios should be considered first in interpretation of electrocardiograms when myocardial infarct is suspected. Only in a small percentage of cases can an independent contribution be expected from measurements of Q-wave durations.

References

1. PARDEE, H. E. B.: Arch. Intern. Med. (Chicago), 1930, 46, 470.
2. RUBIN, I. L., MARGOLIES, P., SMELIN, A., AND ROSE, O. A.: Amer. Heart J., 1932, 7, 695.
3. MYERS, G. B., AND OREN, B. G.: Ibid., 1945, 29, 708.
4. WEISBART, M. H., AND SIMONSON, E.: Ibid., 1955, 50, 62.
5. SIMONSON, E.: Differentiation Between Normal and Abnormal in Electrocardiography. St. Louis: Mosby, 1961, p. 36.
6. FRANK, E.: Circulation, 1956, 13, 737.
7. PIPBERGER, H. V.: Clin. Res., 1958, 6, 225.
8. LANGNER, P. H., OKADA, R. H., MOORE, S. R., AND FIES, H. L.: Circulation, 1958, 17, 46.
9. PIPBERGER, H. V.: Computer Analysis of the Vectorcardiogram, in Computers in Biomedical Research. New York: Academic Press, 1965, 1, 377.
10. WILSON, F. N., AND OTHERS: Circulation, 1954, 10, 564.
11. DRAPER, H. W., AND OTHERS: Ibid., 1964, 30, 853.
12. BLACKBURN, H.: Ann. N. Y. Acad. Sci., 1965, 126, 882.
13. LEVINE, H. D., AND PHILLIPS, E.: New Eng. J. Med., 1951, 245, 833.
14. JOHNSON, W. J., ACHER, R. W. P., BURCHELL, H. B., AND EDWARDS, J. E.: Arch. Intern. Med., 1959, 103, 253.
15. POLAREA, E. R.: J. Amer. Geriatr. Soc., 1963, 11, 1083.
16. PIPBERGER, H. V., BIALEK, S. M., PERLOFF, J. K., AND SCHNAPER, H. W.: Amer. Heart J., 1961, 61, 34.
17. KOSSMANN, C. E., AND OTHERS: Circulation, 1967, 35, 583.
18. PERLOFF, J. K.: Ibid., 1964, 30, 706.

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(Continued from page 348)

5. ELLIOTT, W. C., AND GORLIN, R.: Mod. Conc. Cardio. Dis., 1966, 35, 120.
6. COHEN, L. S., ELLIOTT, W. C., KLEIN, M. D., AND GORLIN, R.: Amer. J. Cardiol., 1966, 17, 153.
7. PROUDFIT, W. L., SHIREY, E. K., AND SONES, F. M., JR.: Circulation, 1966, 33, 901.
8. GORLIN, R., AND TAYLOR, W. J.: New Eng. J. Med., 1966, 275, 283.
9. VINEBERG, A., AND WALKER, J.: Dis. Chest, 1964, 45, 190.
10. VINEBERG, A. M., AND ZAMORA, B. O.: Canad. Med. Ass. J., 1966, 95, 570.
11. EFFLER, D. B., SONES, F. M., JR., FAVALORO, R., AND GROVES, L. K.: Ann. Surg., 1965, 162, 590.
12. EFFLER, D. B., SONES, F. M., JR., GROVES, L. K., AND SUAREZ, E.: J. Thorac. Cardio. Surg., 1965, 50, 527.
13. KEMP, H. G., EVANS, H., ELLIOTT, W. C., AND GORLIN, R.: Circulation Abstracts (suppl. 3), 1966, 34, 142.

Patients Needed at Clinical Center

Intrarenal Obstructions. The coöperation of physicians is requested in the referral of patients with obstruction of the proximal collecting system associated with either long-standing, unexplained nephralgia or persistent urinary tract infection for study by the Surgery Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Md.

Needed for these studies are patients with radiographic evidence of obstruction proximal to the ureteropelvic junction; especially those with caliectasis and a persistent infundibular filling caused by a crossing vessel. Various diagnostic techniques will be used to determine whether either flank pain or infection is related to interference with peristalsis and delayed emptying in the proximal collecting system. Surgical correction of intrarenal obstructions will be carried out whenever indicated. The drainage of the proximal collecting system will be evaluated postoperatively.

Physicians interested in having their patients considered for this study may write or telephone Dr. Elwin E. Fraley, Clinical Center, Room 10-N-119, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 63351.

Kinetics of Cellular Proliferation and Growth Rate in Solid Tumors. The coöperation of physicians is also requested in the referral of patients with tumors for a study now in progress by the Medicine Branch of the National Cancer Institute at the Clinical Center. The purpose of this investigation is to gain information on rate of cellular proliferation and growth of tumors in man.

A limited number of patients with untreated lymphosarcoma, or reticulum cell sarcoma with tumor readily accessible to biopsy, are of particular interest. Patients with other tumors, particularly lung, will be considered if they have accessible disease. Following the study, patients will be treated when appropriate. When the study is completed the patient will be returned to the referring physician.

Physicians interested in referring patients for these studies should write or telephone Dr. Vincent T. DeVita, Clinical Center, Room 12-N-236, National Institutes of Health, Bethesda, Md. 20014; telephone: 656-4000, Ext. 61480.

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Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

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Applied Therapeutics 6:117, 1964

Watts, T. W., Jr.: Treatment of Rheu-
matoid Disorders with Oxyphenbu-
tazone, Clin. Med. 73:65, 1966.

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1. The agitated patient.

Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.





2. The psychosomatic patient.

The family physician is rarely given the diagnostic luxury of a classic, textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.



3. The patient under situational stress.

Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.



4. The menopausal patient.

The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.



5. The previously hospitalized psychiatric patient.

Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.



6. The agitated geriatric.

Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.



7. The constantly returning patient.

The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

Contraindications: Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.

Precautions: Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.

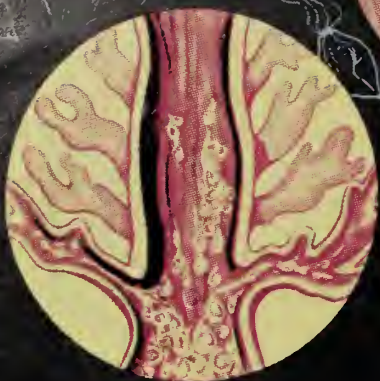
Side Effects: Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.

Before prescribing, see package insert for full product information.

in moderate to severe anxiety, 25 mg. t.i.d.

Mellaril[®]
(thioridazine)





Periurethral glands



Bartholin's gland



Cervical glands

Flagyl[®]....

brand of
metronidazole

Seminal vesicles



Prostate gland



Bladder



Destroys Trichomonads Wherever They Are

Flagyl seeks out the sites where trichomonads hide. Only a systemic agent can. Flagyl does, selectively and effectively.

Flagyl destroys trichomonads in the inner crypts, glands and cavities of the genitourinary tract in both women and men. Consequently, Flagyl is capable not only of curing trichomoniasis in women but also of preventing reinfection.

Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

Dosage and Administration—In women: one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.

In men in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

Contraindications—Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precaution—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

Side Effects—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

Did Dorothy Larson show you her ankles in private? Now she shows them in public.

Your office examination would have confirmed that Mrs. Larson was up to her knees in edema. Her heart was beginning to fail. And her ankles had disappeared under an inch of salty water.

Along with digitalis, you might have prescribed Hygroton. To get rid of the edema. And to keep it from coming back. And you prescribe Hygroton the same way you usually prescribe digitalis: just once a day.

Tablet for tablet, Hygroton is just about the most effective diuretic going. And it costs a fraction of what Mrs. Larson would have to spend for equivalent therapy with short-acting diuretics.

In fact, Hygroton is an awfully nice way to treat the Mrs. Larsons in your practice. Just tell them you can get their ankles back at half price.

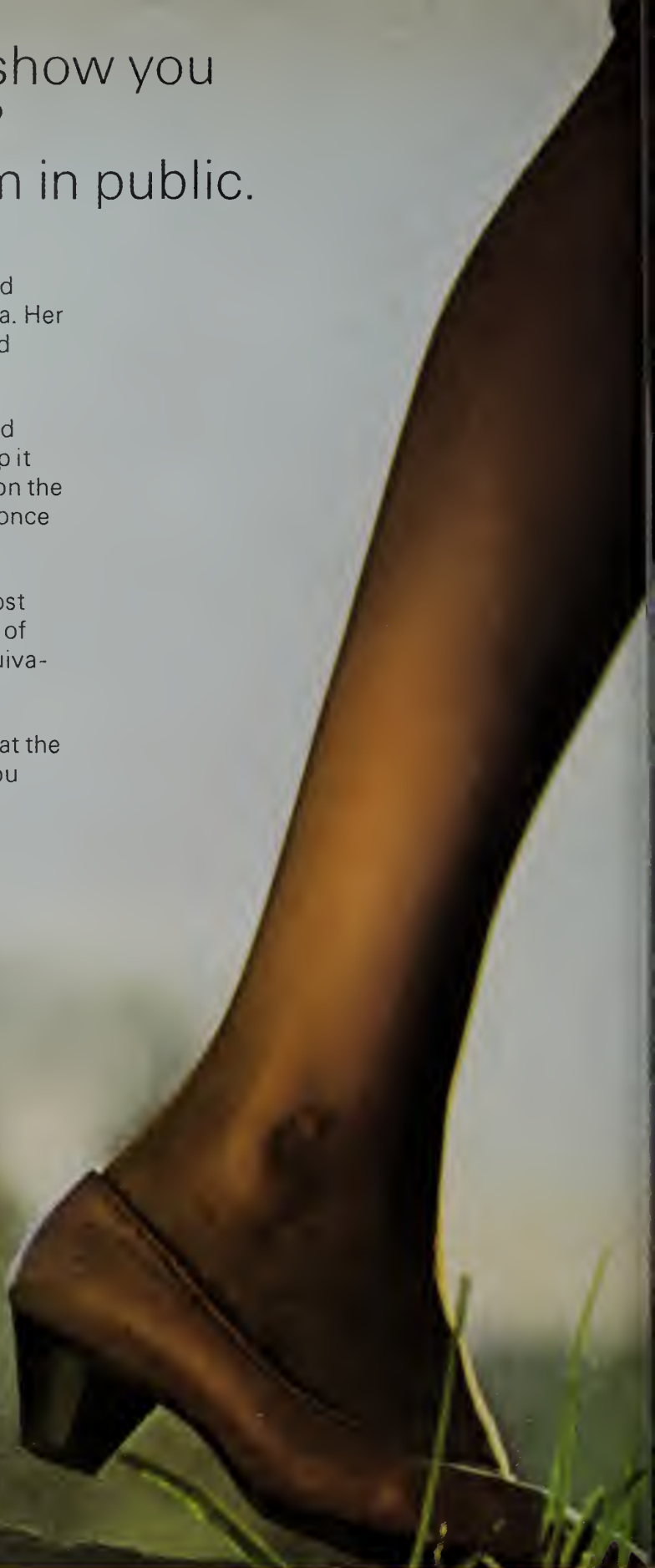
Indications: Hypertension and many types of edema involving retention of salt and water.

Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.

Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.

Precautions: Reduce dosage of concomitant antihyper-

tensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease.





Hygroton[®]

chlorthalidone

and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.

Side Effects: Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps,

postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration.

Average Dosage: One tablet (100 mg) with breakfast daily or every other day.

Availability: Tablets of 100 mg.

6524-V(B)

For full details, see prescribing information.

...so you might say Hygroton is good public relations for Mrs. Larson

Because it gets her *out* in public in the first place. At 43, Mrs. Larson worries about appearances and swollen ankles don't help.

But Hygroton's cosmetic effect is only half the story. Hygroton and digitalis therapy helps her get back in the swing of things. Gives her a second wind. Gets rid of the extra pillow she needed for a good night's sleep. Now she even likes to take walks. Just for the fun of it!

When her troubles began, Mrs. Larson thought they were the signs of the change of life. It's a change all right, but one you can treat. And you can count on Hygroton to help keep her in public instead of in the hospital.

See preceding pages for brief summary of prescribing information.

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Division of Geigy Chemical Corporation
Ardsley, New York



There are 8,450* undetected diabetics in Washington D.C.

Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

Why Wait?



*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

AMES COMPANY, Division Miles Laboratories, Inc., Elkhart, Indiana 46514 428R67



Ames



PRESIDENT'S PAGE

THE UTILIZATION COMMITTEE—INFANCY TO CHILDHOOD



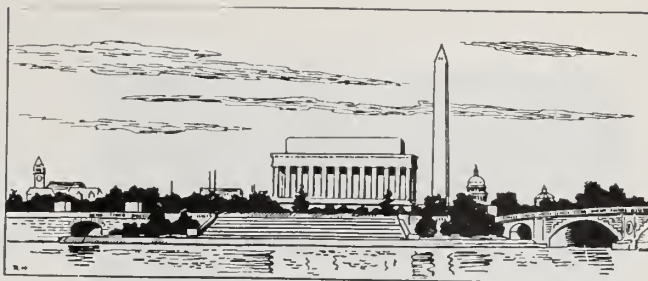
A YEAR OR SO AGO in hospitals throughout the United States there was born a new member of the family. The Utilization Committee was fathered by a suspect, developed with considerable gestation sickness, delivered with prodigious pains, and nursed through various complications during the postnatal period. Now that it is capable of moving about unassisted, it seems appropriate to assess the performance of this child and hazard predictions regarding its future growth and usefulness.

Begrudgingly accepted at first, with howls of anguish, dire predictions of Government control, and outright defiance by a small minority, this unwanted infant has in most ways grown rapidly, adding a worthwhile service to patient care. A review of performance and physician coöperation in the District of Columbia shows consistent acceptance, few objections, and considerably fewer long-term hospital stays. In past years when a patient wished to remain in the hospital, physicians had difficulty in explaining why this was not in the best interests of patient care. The mere existence of such a mechanism seems to have assisted many physicians in providing their patients with a consciousness of the need for more efficient bed utilization. Without fanfare, threats, or disciplinary action, Utilization Committees in this area seem to be functioning smoothly and efficiently. (Let us also remember that Medicare was not solely responsible; the Joint Commission on Accreditation of Hospitals adopted the mechanism before the Social Security Administration announced its regulations.)

The experience in the District of Columbia, however, apparently is not a reflection of their effectiveness throughout the country. At a recent national insurance conference Social Security officials indicated that they are not at all pleased with the Utilization Review performance at some institutions. They are developing firm guidelines to be applied for policing the action of such committees.

Consistent universal application of principles and purposes must be achieved promptly if additional Government intrusion into hospital practice is to be avoided. Our conduct in this area must be maintained with continuing vigilance to obtain and improve efficient bed utilization in all our hospitals. We hope this will make further intercession from outside the profession unnecessary as well as strengthen our claim that improved quality of patient care is the dominant principle of American medicine.

Henry D. Ecker



EDITORIALS

The Psychiatric Institute of Washington, D. C.—A Welcome Addition

IT IS BECOMING INCREASINGLY EVIDENT that in-town psychiatric hospitals which allow patients continuing involvement with their doctors, their families, friends and their lives outside the hospital are a valuable adjunct to the therapeutic process. Washington now has this facility, thanks to the foresight, dedication and fortitude of a small group of our colleagues who represent every facet and school of accepted psychiatric practice in the Washington Area.

The Psychiatric Institute of Washington, D. C., described elsewhere in this issue, is the first private psychiatric hospital of its kind in this area and the

first to provide for the patient who needs neither very short-term intensive treatment nor extended hospitalization. It will significantly enlarge the resources of both psychiatrists and physicians in providing much needed care for this type of patient.

To Dr. Leon Yochelson, President of the staff, Dr. Edward S. Fleming, Medical Director, and to Dr. Jack Durell, who has joined them as Clinical Director, we extend our sincere appreciation and our warm good wishes.

Z. M. L.

Pictorial Resources at National Library of Medicine*

THE NATIONAL LIBRARY OF MEDICINE is well equipped to provide pictorial material relating to the history of medicine and the allied sciences. Its holdings, numbering over a million pieces, include not only monographs and journals but a special Prints and Photographs Collection in the History of Medicine Division. Originating in the acquisition of a large group of portraits in 1879, the collection has since been enlarged through the generosity of many donors, transfers from other Government agencies, and purchase. It now comprises some 55,000 pictures of nonclinical medical interest.

All graphic media are represented in the collection: woodcuts, engravings, etchings, mezzotints, lithographs, photographs, halftones, and other mechanically produced images. There are some drawings and watercolors and a few oil paintings, mostly portraits. They range in age from 15th

century woodcuts to photographs of the latest Nobel prize winners in medicine. In size, they vary from 35 mm. slides to full-size portraits.

The collection includes over 30,000 individual portraits, representing physicians, anatomists, botanists, dentists, pharmacists, nurses, chemists, and others who have contributed through the centuries to the health sciences and professions. Many are engravings and mezzotints after commissioned paintings. There is also a great variety of group portraits, showing meetings of societies, conventions, clinical groups, and informal gatherings.

All the individual portraits, and all identified medical persons in other pictures, are indexed in the portrait catalog. This catalog also includes citations to selected portraits from many books and is constantly being enlarged by the addition of cards for portraits in journals indexed at the Library for Index Medicus. Totalling 80,000 entries, the catalog is an invaluable tool for the location of portraits in publications. To supple-

* Reprinted by permission from National Library of Medicine News, March 1967.



Young Lady with a Sore Throat. Engraving by Francesco Bartolozzi (1725-1815) after a painting by Pietro Longhi (1702-1785).

ment this, catalogs and guides to the resources of other libraries are available for reference.

Pictures of buildings, including medical schools, societies and guildhalls, hospitals, and libraries, also form a substantial portion of the collection. U. S. military hospitals, including many from the Civil War and World War I, are particularly well represented—hospital facilities and allied services, such as transport of the wounded, nursing, sanitation, and field services.

Over 400 of the finest prints in the collection are caricatures, many of them beautifully hand-colored, from the 18th and 19th centuries. Vaccination, dentistry, the evils of quackery, the effects of overindulgence in food and drink, misguided attempts to ward off the plague by special clothing, and other topics are treated in masterly fashion by such artists as Daumier, Gillray, Hogarth, and Rowlandson.

Photographic copies of pictorial material in the Library's collections will be prepared on order for a fee. For further information or reference assistance, write to the History of Medicine Division, National Library of Medicine, 8600 Rockville Pike, Bethesda, Md. 20014.

ELLEN B. WELLS
*Curator of Prints,
History of Medicine Division,
National Library of Medicine*

Doctors and Politics

IN THE NEXT FEW ISSUES of the ANNALS, at the invitation of the Executive Board of the Medical Society, the story of DOCPAC, the District of Columbia Political Action Committee, will be told.

DOCPAC is one of 53 state PAC organizations in the United States and is the local branch of AMPAC, or the American Medical Political Action Committee. AMPAC is a creation of the AMA, whose sole purpose is to educate doctors and others politically and to support men in Congress and locally who favor good, constructive government.

DOCPAC provides a method where all may unite behind political candidates whose integrity and political philosophy are worthy of public trust. DOCPAC is nonpartisan and supports both Republicans and Democrats.

Annual dues are \$20.00 for individual members, \$30.00 for family membership, and \$99.99 for a patron membership. Why don't you become a member? Just call me at Federal 7-2727.

WILLIAM H. COOPER, M.D.
*Chairman, D. C. Political
Action Committee*

Question of the Month

QUESTION OF THE MONTH is a new feature beginning in this issue of the MEDICAL ANNALS. Each month the Editorial Office will submit a question of general interest to a number of physicians representing different specialties. The replies to the first question appear on page 371.

Your Editorial Board believes that this section of questions and answers will appeal to our readers. The topics will cover a wide range of material, and from the opinions submitted by our members physicians of all ages should profit.

It is hoped too that doctors who disagree with the views of their colleagues write their own views for publication. The Medical Society of the District of Columbia, which embraces physicians of many nationalities, races, and religions, should be a source of stimulating and fresh opinions on all subjects relating to the medical profession. It is hoped that there will be a vigorous response to each Question of the Month.

Report on National Meeting of State Chairmen of Committees on Medicine and Religion

Chicago, Illinois, February 18 and 19, 1967

FORTY-NINE STATES (Alaska being the exception) now have Committees on Medicine and Religion, as do the District of Columbia and Puerto Rico. All were represented at the meeting. Many members of the Committee on Medicine and Religion of the Board of Trustees of the American Medical Association were present and participated as well as staff members of the AMA Department of Medicine and Religion.

The Board of Trustees' Committee called this meeting to give each state chairman the opportunity to share in the reporting of activities that have taken place in his state; the kind of county and state programs that were held; to exchange program ideas that might be helpful to other chairmen; to bring their problems and concerns before the whole group in an effort to find solutions from past successful experiences; to become acquainted with those from other states who are involved in the program; and to assist the Trustees' Committee and the AMA Department of Religion and Medicine in making long-range plans by suggesting new program ideas, new audiovisual aids, and other resource materials that will support the goal of having such programs in component medical societies.

Reports and comments in the discussion groups indicated that state and county programs and problems varied in terms of leadership, interest, population distribution, and the size of urban and rural areas. In general, a special lecture or panel program given at the annual state meeting or at the county or city level was believed to be excellent to demonstrate that physicians are interested in communicating with clergymen. The drawback expressed by many is the failure to become personally acquainted with others attending a large meeting. Many state and county committees followed up the large meeting by initiating smaller group meetings with about equal representation from each profession. Some of these meetings took place on a regular basis, even as often as weekly. The size also varied from place to place, sometimes as small as 5 from each profession. To invite clergymen to regular hospital staff meetings was reported as a successful means of furthering understanding. Breakfast, lunch or dinner served in the hospital cafeteria or dining room was often part of the regular meeting plan. Meetings in homes were arranged by the Woman's Auxiliary in some cases. The duration of the regular meet-

ings varied from weekly 1-hour breakfast meetings to less frequent meetings beginning about 4 p.m., including dinner and continuing after dinner.

Topics and program materials including the film, provided by the AMA Department of Medicine and Religion, were all used by various groups and reported as valuable. Small groups found discussing a specified topic with no formal talk as fruitful. Good results were reported by using a panel made up of 2 clergymen, 2 physicians, and 2 laymen, all of the same faith, and also from panel discussion where various faiths were represented. For some meetings case reports were used to demonstrate how the professions can meet in patient care, or to explain new treatment, appliances, or experimental surgical procedures, etc. in order to help clergymen understand what the doctors are trying to do for the patient.

Some of the goals which are being achieved in these ways include:

1. Better rapport between doctors and clergymen.
2. Communication for better patient care. Steps are being taken toward developing hospital forms for requesting consultation with the patient's clergyman as well as a form on which the clergyman can enter his report, which will be open only to the inspection of the attending physician and not become a permanent part of the patient's hospital record.
3. Communication to work out better understanding of hospital rules and ethics. It was suggested that the AMA Department try to produce a film strip with teaching value in this area.
4. Communication to afford doctors a better understanding of religious attitudes toward medical practices.

The Committee on Medicine and Religion of the Los Angeles County Medical Association is to be particularly commended for the compilation and publication of a booklet entitled "The Faith of Your Patient." It lists the responses of 6 Christian denominations and 2 branches of Judaism on 14 subjects, which include, for example, autopsies, abortion, birth control, dietary laws, Sabbath observances, etc. This was produced to help teach student doctors, nurses, and graduates in both professions.

Services provided by the AMA Department of Religion and Medicine for the aid of state and county committees include:

*"All the
Comforts of
Home"...*

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PROPRIETORS-ADMINISTRATORS
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1. Program Guide: This looseleaf notebook gives detailed instructions for many types of meetings, listing 2 films and other available materials. Six topics have been fully developed with instructions for use, bibliography, and questions for discussion.

2. Leaflets: Printed folders are available to be used as guidelines for news releases and as information items for those attending meetings, or to use with the exhibit booth.

3. Movie: "The One Who Heals." This is a 16 mm. color-sound-motion picture, 28 minutes in length. A film aid is prepared to be used with it. Each state may have 1 copy. So far it has been shown over 3,000 times at meetings and 458 times on TV. It consists of 4 open-end vignettes that illustrate the kind of situations in which physicians and clergy are both involved in the care of patients. Solutions are not given. Discussion should follow the showing with physicians and clergymen participating.

4. Exhibit Booths: There are 3 available for use at annual meetings and assemblies. There is no charge for use or shipping to the Society, but the borrower must pay for setting it up, repacking, and the return shipping charges (weight, 260 lbs., 8 linear feet). It is well to add a table and some chairs, information leaflets, and an attendant.

5. Speakers: There is available a list of speakers. Members of the AMA Trustees' Committee and the staff members of the AMA Department are ready to coöperate.

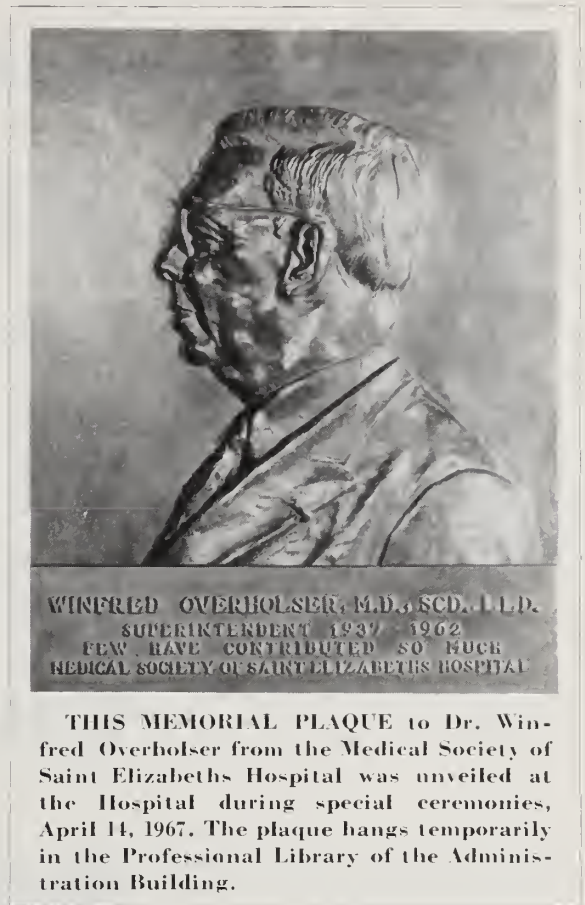
6. A monthly Medicine and Religion column in J.A.M.A. (This began in the April 10, 1967 issue.)

The AMA Department is presenting a panel meeting on Sunday, June 18, 1967, at the Annual Meeting of the AMA in Atlantic City. The topic, "The Doctors' Dilemma in the World of Changing Morals," will be handled by the clergyman- and physician-panelists in terms of the dilemma rather than the moral.

Two national programs now being developed through the AMA Department were discussed at the meeting.

1. Pilot programs of education in medical and nursing schools, in theological seminaries, and postgraduate seminars.

These are carried out with the coöperation of state or county Medicine and Religion Committees or directly. There are 4 pilot programs in medical schools and 20 in seminaries. The D. C. Committee on Liaison with the Clergy is furnishing 4 physician-lecturers for the pilot program at Wesley Theological Seminary in Washington, D. C. In October 1965 and October 1966 2-day Postgraduate Symposia were presented by the



University of Kansas School of Medicine in co-operation with the Department of Medicine and Religion of the AMA, the Committee on Relations with Religion of the Kansas Medical Association, the Kansas Heart Association, and the Kansas State School of Religion. A 3-day symposium is planned for 1967.

2. Assistance to the American medical missionary so he can maintain a close liaison with his colleagues. Proposed were:

- a. Affiliate membership in AMA at no cost.
- b. Free subscription to J.A.M.A. and 2 specialty journals.
- c. Supplying him or her with medical books and other medical information.
- d. Making available educational films where the countries permit.
- e. Aid toward securing continuing medical education when on furlough.
- f. Encouraging short-term services to mission stations by stateside physicians in coöperation with the AMA Department of International Health.

ELIZABETH S. KAHLER, M.D.
*Chairman, Committee on Liaison
with the Clergy*

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Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

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Question of the Month—?

The policy of the AMA and this Society is to offer to discuss fees with patients prior to undertaking any rather costly service. Do you do so? If not, why?

Answers and Comments

DARRELL C. CRAIN, M.D. (Rheumatology): I would answer the question with a limited "yes." Because of the nature of our work, 4 out of 5 patients coming into the office must have a complete workup before treatment is instituted. At the initial interview I outline to the patient what is contemplated, telling him that extensive laboratory and X-ray work will be done. If the patient asks for the charges, these are outlined and methods of payment are discussed. Similarly, after this survey has been done a discussion with the patient is arranged and the results of our studies are described. The recommended outline of therapy is then discussed in considerable detail. The patient is always asked at this point if he has any questions. If a question is raised as to finances, again these are discussed.

Since the patient is always given the opportunity to bring up the matter of fees I have always hesitated to initiate such a discussion when the patient does not. It seems presumptuous for me to say in effect, "Now do you think you can pay for this?" I think if I went to a doctor for advice and he said this to me I would feel that his primary concern was the matter of collections. This attitude I try to avoid.

O. HUGH FULCHER, M.D. (Neurosurgery): I do not discuss fees with patients unless they initiate the discussion. If a patient is dissatisfied with the fee, I always suggest that he name the amount. I do not like to mix financial matters and medicine. The practice of medicine is not a business; it is a dedication. Any effort to make the practice of medicine a business has always proved to be unpraiseworthy.

ARTHUR DICK, M.D. (Plastic Surgery): I invariably discuss fees prior to scheduling surgery. Surprisingly, many patients will initiate this discussion and it is explained, even going into the time period over which payments will be spaced if they are unable to pay the fee in full. Exceptions are low-income patients under Blue Shield or Medicare patients whose assignments I have accepted.

Most patients prefer knowing what their obligations will be rather than learning about it on the day the statement arrives. It saves embarrassment, detailed explanation, and apologies.

RAYMOND A. OSBOURN, M.D. (Dermatology): Rarely do my fees reach the magnitude of a very costly procedure. However, I am always willing to discuss any fee, even that for a routine office visit, before treating a patient. I prefer to have the patient bring up the question of fees because it sounds a bit commercial for a physician to state his fee when he isn't asked.

In the occasional case when the fee must be higher than for a routine visit, I do try to explain this fact to the patient without appearing to be overly fee-conscious.

I think a physician should always be willing to adjust his fees when the situation warrants, and this may be obvious even without a request from the patient.

Most patients, I believe, are willing to pay the "usual and customary" charge as is made by other physicians of comparable training and experience practicing in the same locality. If a physician keeps his fees within that range, he should have little or no trouble about the fee aspect of medical practice.

If any members have dissenting views, your Editorial Staff will be pleased to receive and publish them.

The Psychiatric Institute of Washington, D. C.

THE PSYCHIATRIC INSTITUTE of Washington, D. C., the first private psychiatric hospital and treatment center in Metropolitan Washington, opened its doors this month. It occupies the top floors of the University Medical Building at 2141 K Street, N.W.

Founded by a small group of Washington psychiatrists, the Psychiatric Institute provides a flexible program of partial or complete hospitalization and comprehensive outpatient diagnostic and treatment programs on an individual, family, or group basis.

In addition to providing much needed psychiatric beds, the Institute, as a participating member of Group Hospitalization, Inc., of Washington, D. C. (Blue Cross), will enable patients

with wide ranges of income to afford necessary treatment.

This 71-bed psychiatric hospital is comprised of a 35-bed Open Staff Community where Washington area psychiatrists who have taken out staff privileges may admit and treat their own patients and a 36-bed Therapeutic Community where patients are the responsibility of the Institute staff and do not have an outside attending psychiatrist unless specifically indicated. In addition, there are private offices for participating psychiatrists as well as administrative and treatment facilities.

The Institute will not focus on patients requiring prolonged or chronic care. It is oriented toward patients who will be fully hospitalized for periods ranging from several weeks to 6 or 8 months and then continue as outpatient members of the Therapeutic Community for as long as indicated.

Patients at the Psychiatric Institute, whether fully or partially hospitalized, will be members of a Therapeutic Community; their treatment will not be confined to isolated hours of individual therapy but will be a continuing part of their hospital experience. The in-town location will permit ongoing relationships with families and friends and will enable significant family members to be involved in the therapy. At the same time the patients will maintain involvement with the outside community—their homes, schools, jobs, and recreational pursuits—and thus avoid the sense of isolation that tends to occur in "country" hospitals. More importantly, this social involvement will give patients an opportunity to apply what they learn in treatment to real life situations.

Heading the medical staff of the Institute are Leon Yochelson, M.D., President; Edward Stitt Fleming, M.D., Medical Director; and Jack Durell, M.D., Clinical Director.

Members of the medical profession will receive invitations to an open house tour, or they may call 223-2700 for an appointment to inspect the Psychiatric Institute at their convenience.

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Health Dept. Notes

Work Training and Opportunity Project

THE D. C. DEPARTMENT of Public Health plays a major role in the activities of the Work Training and Opportunity Project in the District of Columbia. The Project is designed to keep indigent families off relief by training and placing heads of households in gainful employment.

The project is sponsored by the Department of Public Welfare and is financed under a grant from the Bureau of Family Services, U. S. Department of Health, Education, and Welfare; it received its first applicants on September 30, 1965.

The occupational training is preceded by a health examination and an 8-week remedial education and acculturation program.

More than 900 persons are in training at any one time, with courses of study taking from 6 months to 2 years to complete. Candidates finishing the required training at the Center have been employed in positions such as clerk-typists, secretaries, nurses' aides, practical nurses, beauticians, neighborhood workers, air-conditioning and refrigeration repairmen, auto mechanics, electricians, and plumbers. Approximately 460 people have been placed in permanent jobs.

The provision for good health is an important segment of the Work Training Program. The health and medical services provided by the D. C. Department of Public Health are some of the basic benefits offered enrollees and their families. A preemployment physical examination is required of each applicant, and upon return to work following an absence of more than 3 consecutive days for reasons of ill health, each trainee is given a medical examination. Also available to trainees and their families are immunizations, treatment and rehabilitation services, utilizing facilities of, or under contract to, the D. C. Department of Public Health. A full range of mental health services for trainees and their families is provided.

The Work Opportunity Training Center does not accept persons with chronic physical disabilities which may make the applicant unemployable, but it does accept, otherwise eligible, persons who need eye glasses, hearing aids, dentures, hernia belts, and other prostheses. All of these are supplied the trainees through subcontracts with the D. C. Department of Public Health.

In addition to the medical needs of the enrollees and their families, the Health Unit at the Center sponsors classes to discuss health problems. For example, classes have been conducted on Medicare and Medicaid, cancer, venereal diseases, tuberculosis, and health screening.

The Health Department operates the health suite, including a first-aid facility, at the Center during the regular hours of duty. The facility is available to applicants, enrollees, and program staff. It is staffed by a physician, a psychiatric social worker, a public health nurse, and a clerk-typist.

The Health Department provides necessary personnel replacements during absences and vacation periods to assure uninterrupted health services at the Center.

For providing these services, the D. C. Department of Public Health is reimbursed for salaries paid to the Center's health staff. A "purchase-of-contract" between the Departments of Public Health and Public Welfare pays for the medical costs of the trainees and their families.

A physician is in charge of the health unit. In addition to medical examinations, the doctor also provides emergency first-aid treatment. The physician also refers patients for diagnosis and treatment to other Department facilities and services as needed.

The public health nurse is responsible for the day-to-day operation of the health suite, including the first-aid facility in the Center.

Under the general direction of the physician, the psychiatric social worker provides counseling and follow-up services for treatment of emotional problems of trainees and their families who are referred by Center program team leaders. In addition, the social worker conducts special classes in mental health as part of the group orientation of enrollees.

A new health aid program within the framework of the Health Unit was inaugurated on February 15. Six health aides were added to the health staff and their principal duties are to assist trainees and their families in their health problems.

The health aides go into the homes of the trainees and learn of the health needs of the families and make recommendations to the physician. The aides also make health surveys and assist the physicians as needed.

We believe that this program affords an opportunity for participants to lead healthy and productive lives.

MURRAY GRANT, M.D., D.P.H.
D. C. Director of Public Health

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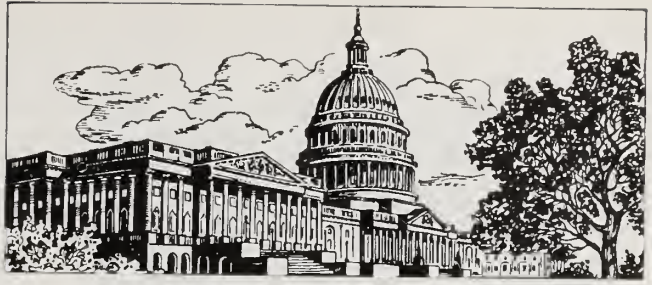
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NEWS & PERSONALS

Summary of Executive Board Actions

Proceedings of April 3 Meeting

Dinner for the Board members was served at 6:30 p.m. in the Exhibit Hall of the Medical Society. Dr. Karl C. Corley, Chairman, presided at the meeting. Present were Drs. Frank S. Bacon, C. Willard Camalier, Jr., Robert J. Coffey, Henry D. Ecker, Raymond T. Holden, Margaret M. Kenrick, William S. McCune, and Mr. George W. Cooley, Secretary. The meeting was called to order at 7:20 p.m.

The minutes of the February 27, 1967 meeting were approved with amendments.

Committee Meetings: The Secretary reported the following committees had met since the last meeting of the Board:

- | | |
|-------|--|
| March | 1 Committee on Public Welfare |
| | 1 Fee Review Committee |
| | 2 Committee on Environmental Health |
| | 8 Committee on Regional Medical Programs |
| | 14 Committee on Medicolegal Problems |
| | 15 Liaison Committee with Woman's Auxiliary |
| | 15 Board of Credentials |
| | 16 Special Meeting re Annual Scientific Assembly |
| | 21 Committee on Public Information and Education |
| | 21 Grievance Committee |
| | 22 Committee on Liaison with the Clergy |
| | 27 Committee on Mental Health |
| | 30 Medical Bureau Committee |

Board of Credentials: The following actions were taken on recommendations made by the Board of Credentials:

Active Members

Julius Amsterdam, 1101 New Hampshire Avenue, N.W.
Raymond Cutts, Jr., 707-A Kenyon Street, N.W.
John Wesley Fitzhugh, 930 Kennedy Street, N.W.
Dora Papara Nicholson, 2830 28th Street, N.W.
Phillip Pembroke Pease, Civilian Employees' Health Service, The Pentagon

Associate Members

Bernard Band, 1015 Spring Street, Silver Spring, Md.
Henry Roth, D. C. General Hospital
Edward Rudolf Wernitznig, 601 Indiana Avenue, N.W.

Transfers

Active to Special: William N. Wooldridge
Active to Associate: Ruben D. Cabrera, Juan Babbist Calatayud, Kang Ok Cho, Mary Z. Daugela, William H. Dickson, Ben S. Fine, Juan R. Fraga, G. Foard McGinnes, Ali Moghtader, and Ernest Thonnard

Resignations

Active: George F. Stevenson
Associate: Robert L. Baird, Frank J. DiTraglia, and Raymond Feldman

The following were dropped for nonpayment of 1966 dues:

Active: William E. Beaven, Andrew F. Burton, James M. Corcoran, Margaret E. Grigsby, W. Preston Haynes, John B. Johnson, Spencer F. Maddox, and George Maksim

Associate: Edgar A. Bockock, Michael Edelstein, Osman Z. Ersoy, Roman Folwarkiw, Barton Jerome Gershen, James B. Gilbert, Virginia P. Porter, Edward J. Richards, John S. Rogers, and Irwin Siegel

Resident-Intern: Richard C. Vadney

Ad Hoc Committee on Medical Licensure:

It was voted to discharge this Ad Hoc Committee with commendation and an expression of appreciation for its work. A new ad hoc committee will be appointed by the President to confer with legal counsel and other knowledgeable persons in order to develop the amendments described in the Ad Hoc Committee's report and to report back to the Executive Board.

AMA Disability Program: Dr. Holden explained the reasoning behind the AMA Board of Trustees' decision to retain the same insurer but drastically revise the benefits. He stated that both he and Dr. Camalier had received many calls and much correspondence from Society members op-

posing this change, and in view of this both delegates had written letters to the Board of Trustees of the AMA requesting reconsideration of the matter. Dr. Ecker reported that he also had written a similar letter to the AMA Board of Trustees on behalf of the Medical Society and read the letter to those present.

The Board approved the action taken by the President and the 2 delegates and requested that note of this be made in the next Newsletter.

Dispensing of Contact Lenses: The Section on Ophthalmology presented a policy statement on contact lenses which was approved.

Council on Specialty Sections: The following recommendations of this Council were approved:

1. That the Executive Board investigate the use of computers in order to make available to the Sections such services as listing, addressing, mailing, and bookkeeping.

2. When the need arises for investigation, study, and recommendations relating to subjects with which the Specialty Sections are concerned, the procedure should be to direct those matters to the Executive Committee of each Section.

Committee on Medicolegal Problems: The Secretary reported that the Committee on Medicolegal Problems had met with the Society's professional liability carrier and reviewed the loss ratios for 1966. Although these loss ratios were much better than those of the past 5 years, both the Committee and the carrier agreed that the premiums should remain the same for 1967. This means that if the loss ratios continue to improve or remain at the present level, a reduction in premiums may be feasible next year.

The Board approved the recommendation of the Committee that the premiums remain the same for 1967 as they were in 1966.

Committee to Review Health Department Screening Program: The following Committee

was appointed to review the Health Department's screening program: Dr. Thomas M. Peery, Chairman, Dr. Jack Kleh, and Dr. Myer H. Stolar.

Demonstration for Doctors: A program on "Practical Demonstrations for Doctors" by Medical Service of D. C. was approved to be held some time this fall.

Meeting of AMA House of Delegates: Two proposed resolutions to be submitted to the House of Delegates in June, entitled "Decentralizing AMA-sponsored Conferences" and "Study of Federal Health Programs," were approved.

Miscellaneous

The President distributed a written report on a meeting with the Committee on Liaison with the Woman's Auxiliary and commented briefly on it. The stand taken by the members of this Committee was confirmed and the Committee commended for its immediate attention to the problem of improving liaison with the Auxiliary.

The President discussed briefly a conversation with Dr. Earl H. Mitchell, Chairman of the Society's Committee on Alcoholism, pointing out that the Committee wished the Society to join with the Washington Area Council on Alcoholism in endorsing H.R. 6143. It was voted to support the recommendation of this Committee by endorsing H.R. 6143.

The Secretary called attention to the very fine portrait of the late Dr. Joseph J. Mundell and the fact that Dr. Coffey had combined a very successful cocktail party with the unveiling of the portrait in the Mundell Board Room on Sunday, March 12. The Chairman of the Board expressed the appreciation of all of the members of the Board to Dr. Coffey for his efforts in not only obtaining the portrait but in thus completing the decor of the Board Room.

The Secretary reported that Dr. Harry Zehner,

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Jr., has agreed to attend the AMA meeting on Emergency Medical Services in Chicago, April 6 and 7.

There being no further business, the meeting was adjourned.

Meetings

A Program on Patient Care, co-sponsored by the Sections on General Practice, Physical Medicine, and Preventive Medicine of the American Medical Association, will be held during the AMA Convention in the Convention Hall Ballroom in Atlantic City, New Jersey, on June 22, at 9:00 a.m.

The purpose of this program is to express views of various types: philosophical, medical, paramedical, nursing, education and governmental. The focus, however, will be care of and care for the patient. Among the panelists will be Dr. Philip R. Lee, of Washington, Assistant Secretary of Health, Education, and Welfare, who will represent the Government.

General News

The Institute of International Education (IIE) announces that its competition for 1968-69 United States Government graduate grants for academic study or research abroad opened officially on May 1.

IIE conducts competitions for U. S. Government scholarships provided by the Fulbright-Hays Act as part of the educational and cultural exchange program of the U. S. Department of State. Under this program, more than 850 American graduate students will have an opportunity to study in any one of 54 countries.

Applicants in the field of medicine must be U. S. citizens and have a degree in medicine at the time of application. Selections are made on the basis of academic and/or professional record, the feasibility of the applicant's proposed study plan, and personal qualifications. Preference is given to candidates who have not had prior opportunity for extended study or residence abroad and who are under the age of 35.

Information and application forms may be secured from the Counseling Division of the Institute of International Education, 809 United Na-



AMA-ERF CHECKS TO WASHINGTON DEANS OF MEDICINE: Dr. Henry D. Ecker (second from right), President of the Medical Society of the District of Columbia, distributed checks of the American Medical Association Education and Research Foundation, May 3, to the Deans of the 3 Medical Schools: (left to right) Dr. John C. Rose, Georgetown University; Dr. K. Albert Harden, Howard University; and Dr. John Parks, George Washington University. The checks represent contributions from alumni of the Medical Schools. The deans obviously were pleased with the amounts contributed, namely, Georgetown, \$15,620.33; Howard, \$4,394.88; and George Washington, \$9,126.88.

tions Plaza, New York, N. Y. 10017, or from one of the IIE regional offices. The regional office in Washington, D. C. is at 1530 P Street, N.W. (20005).

The Veterans Administration has 30 openings for career resident physicians in physical medicine and rehabilitation with beginning salaries at or over \$12,873 per year. The openings are in 25 VA hospitals which are affiliated with medical schools. Residents may prepare for their Specialty Board certifications during their VA association. Those who remain with the VA as full-time staff physicians, after their residencies, may earn more than \$23,000 annually. In addition to salary, there are many fringe benefits. Interested physicians may get in touch with the Chief Medical Director (117), VA Central Office, Washington, D. C. 20420.

Georgetown University School of Medicine is sponsoring its second **Medical Seminar Cruise** aboard the luxurious cruise ship, the *S.S. France*, sailing from New York, October 30, 1967 on a 14-day Caribbean cruise. There will be 24 hours of instruction consisting of formal lectures, panels,

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and round table discussions on a wide variety of subjects. Wives and children are invited to accompany physicians. Those interested in receiving literature and further information should address their inquiries to the Allen Travel Service, Inc., 565 Fifth Avenue, New York, N. Y. 10017.

The American Association of Medical Assistants announces that **loans for medical assistant training** are now available from its Maxine Williams Scholarship Fund. The fund, named in honor of AAMA's first President, is supported entirely by private contributions. It was established to encourage those wishing to become medical assistants to take formal training, preferably at a school which offers a 2-year course. Each loan is for \$300. As AAMA assumes all administrative costs, there is no interest rate. Repayment may be made after the student is employed. Anyone who is a high school graduate and wishes to take formal training is eligible to apply for a loan. Application blanks are available from AAMA headquarters, 510 North Dearborn Street, Chicago, Ill. 60610.

On July 1, 1967 **Freedmen's Hospital** will become a part of Howard University and thereupon joins the private sector of health care in the Washington Metropolitan Area. The transition from public to private control does not only effect a change of ownership and control but also provides opportunity for the accelerated growth and development of Freedmen's, which during 1967 completes a hundred years of health care and education to the local and national communities. The name and address of the Hospital will not be changed and neither will admission policies in relation to financial, medical, and residential eligibility of patients.

Dr. Francis D. W. Lukens, a world authority on diabetes and Chief of Staff of the Veterans Administration Hospital in Pittsburgh, delivered the **Forty-third Kober Lecture**, April 19, at Georgetown University School of Medicine. He spoke on "Diabetes Mellitus—1967."

This lecture was one in a series which honors the memory of Dr. George M. Kober, a former Dean of Georgetown University School of Medicine. The lecturer was chosen this year by the Association of American Physicians.

Prior to his retirement in 1966, Dr. Lukens was Professor of Medicine at the University of Pennsylvania. For the past 3 years he has performed extensive research in adrenal cortex and diabetes, experimental diabetes and insulin and protein metabolism.

Dr. Frank G. Standaert will occupy the first endowed chair at Georgetown, July 1, when he becomes **Chairman of the Department of Pharmacology** in the Schools of Medicine and Dentistry. The chair was endowed last year by the Schering Foundation, Inc., of Bloomfield, N. J. in memory of the late Francis Cabell Brown, who was killed in an automobile accident, October 2, 1966, in Belgium. At the time of his death Mr. Brown was a member of the President's Council at Georgetown, Chairman and President of Schering Corporation, and Chairman of the Board of Trustees of the Schering Foundation, Inc.

Dr. Standaert comes to Georgetown from Cornell University Medical College where he has served as Associate Professor of Pharmacology. He received his medical degree from Cornell University.

George Washington University School of Medicine has received a grant of \$115,720 from the John A. Hartford Foundation, Inc., New York City, for furthering studies of mycoplasma activity in human disorders. The 3-year study will be under the direction of Dr. Thomas McPherson Brown, Eugene Meyer Professor of Medicine and Chairman of the Department of Medicine, and Dr. Harold W. Clark, Associate Research Professor of Medicine (Biochemistry). This study is part of a long-term plan to determine the role of mycoplasma in such human illnesses of unknown origin as rheumatoid arthritis, emphysema, multiple sclerosis, and other crippling diseases.

A new facility, **shortwave radio station WA3FXJ**, with studios on the campus of Georgetown University, will soon begin operation. Dr. Patrick J. Doyle, Chairman and Professor of the Department of Community Medicine and International Health in the School of Medicine, states that this is a joint project of the Medical School and Riker Laboratories of Northridge, Calif., a division of Rexall Drug and Chemical Company. Dr. Doyle received a check of \$4,268.80 from Mr. Bruce Hervey, District Manager for Riker Laboratories, to cover the costs of equipping the new radio station.

The new unit will be known as Georgetown's "International Medical Amateur Radio Station." As far as is known, it will be the first ham radio station in the United States used primarily for the teaching of medical students in other countries. It will provide a series of medical programs and an emergency consulting service for teaching purposes whenever and wherever the need exists. The

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Dr. Sanford Vernick, Assistant Professor in the Department of Biology at Georgetown and a licensed amateur radio operator, will be moderator for Station WA3FXJ. He will be assisted by 15 ham operators who are either faculty members or students.

Initial broadcasts will be between Georgetown and similar shortwave medical radio stations located at the University of Guayquil Medical School in Ecuador and at medical missions in Latin America. Future radio contacts are planned between the station and the Edinburgh School of Medicine in Scotland and the radio station at the University of Mexico Medical School in Mexico City.

Dr. Donald William Delaney, who has served at Children's Hospital since 1964 as Assistant Director for Education, has been **appointed Pediatrician-in-Chief** by the Board of Directors. A graduate of Georgetown University School of Medicine, Dr. Delaney is Assistant Professor of Pediatrics at Georgetown and Consultant in Pediatrics at DeWitt Army Hospital, Fort Belvoir, Va.

Frank Carey, well known science writer for the Washington Bureau of the Associated Press, received a Certificate of Special Commendation in the newspaper category from the American Medical Association for a series of articles on emphysema. The award was one of a number made by the AMA in its Medical Journalism Awards Contest for 1966.

A new Public Health Service publication, **"Mental Health Benefits of the Social Security Amendments of 1965,"** explains that not only the elderly but the medically indigent are eligible for aid to meet expenses resulting from mental or emotional illness under 2 major amendments to the Social Security Act, Title 18 and Title 19.

Prepared by the Public Information Office of the National Institute of Mental Health, the pamphlet outlines in question and answer form the benefits available for the treatment of mental or emotional illness. Single copies (PHS Publication No. 1505) are available free from the Public Inquiries Branch, U. S. Public Health Service, Washington, D. C. 20201.

"Drug Abuse: Escape to Nowhere—A Guide for Educators" has been published by Smith, Kline and French Laboratories, of Philadelphia, in coöperation with the American Association for Health, Physical Education, and Recreation, a department of the National Education Association. It is a comprehensive text intended to help teachers understand and combat the problem of drug abuse among students. A panel of experts from the fields of education, medicine, pharmacy, and law enforcement assisted in its preparation. The 104-page illustrated text can be obtained from the NEA, 1201 16th Street, N.W., Washington, D. C. 20036. The price is \$2.00 per copy.

Personals

Dr. Fred A. J. Geier and Dr. Joseph F. Fazekas were honored for their "humanitarian acts in relieving human suffering" in South Vietnam by the Jewish War Veterans Post 692. The Tenth Annual Leo Beldock Humanitarianism Awards were conferred upon them at a breakfast, April 9, at the Indian Spring Country Club in Wheaton, Md. Drs. Geier and Fazekas served in Vietnam under the auspices of the Agency for International Development, Project Hope, and the American Medical Association.

Dr. William B. Walsh, founder and President of Project HOPE, received the Citation of the Committee for the Handicapped of the People-to-People Program, April 26, for his outstanding contribution to international goodwill. The presentation was made by Committee Chairman, Dr. Frank H. Krusen, Professor and Coördinator of the Department of Physical Medicine and Rehabilitation at Temple University School of Medicine and Hospital. The ceremonies took place at the banquet held in the Washington Hilton International Ballroom during the Annual Meeting of the President's Committee on Employment of the Handicapped.

Dr. Charles L. Dunham, Director of the Division of Biology and Medicine of the Atomic Energy Commission since 1955, will succeed R. Keith Cannan, who is retiring, as Chairman of the Division of Medical Sciences of the National Research Council. Dr. Dunham will assume his new duties on September 18.

Dr. Dunham has published many papers on radiation injury as a medical problem and has served on the Board of Directors of the Health Physics Society and the American Nuclear Society. He is an Honorary member of the D. C. Medical Society.

Dr. R. Lomax Wells, Medical Director of the Chesapeake and Potomac Telephone Companies since 1948, was accorded the highest honor in the field of industrial medicine, April 12, when the Industrial Medical Association conferred upon him the Knudsen Award at the Americana Hotel in New York City during its 52nd Annual Meeting. This award was established in 1939 by the late General William S. Knudsen, who was President of General Motors Corporation, and it has been presented annually since that time.



DR. R. LOMAX WELLS (right) receives the congratulations of **Dr. Donald C. Bews**, President of the Industrial Medical Association, after he has been presented the Knudsen Award.

Dr. James J. Feffer took office as President of the American Society of Internal Medicine during the Annual Meeting of the Society at the St. Francis Hotel in San Francisco, April 7-9.

Brig. General Stanhope Bayne-Jones (ret.), U. S. Army Reserve Medical Corps, presented to the National Library of Medicine the 5 Yale-blue-bound volumes containing the transcript of his tape-recorded memoirs in a brief ceremony on April 18. The presentation marked the completion of the first in a series of Oral History Projects supported by the Library.

Dr. Bayne-Jones, Chairman of the Advisory

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Editorial Board on the History of Preventive Medicine in the U. S. Army in World War II, has been one of NLM's most distinguished scholars-in-residence for several years. He has achieved eminence not only as a physician and a soldier but also as an educator and researcher.

The 5 volumes, of which only 3 sets exist, along with all of Dr. Bayne-Jones' papers, will be made available to qualified scholars and investigators at NLM, as stipulated by Dr. Bayne-Jones.

At the 123rd Annual Meeting of the American Psychiatric Association in Detroit, May 8-12, **Dr. Zigmond M. Lebensohn** was elected to the governing Council for a 3-year term. **Dr. Dale C. Cameron** was reelected Treasurer.

Dr. Henry W. Brosin, of Pittsburgh, succeeded Dr. Harvey J. Tompkins, New York City, as President of the Association at the close of the meeting. Dr. Lawrence C. Kolb, of New York City, is the new President-elect. Dr. Kolb was an Active member of the Medical Society of D. C. from 1947 to 1950.

Dr. K. Albert Harden, Dean of Howard University College of Medicine, has been appointed to the Committee on Continuing Medical Education of the American Medical Association.

Obituaries

John Allan Talbot, M.D., F.A.C.S.

(1882-1967)

DR. JOHN A. TALBOT, an orthopedic surgeon in Washington for many years, died, April 27, 1967 at his home in Middleburg, Va.

Dr. Talbot was born, May 27, 1882 in Montgomery County, Md. After receiving his medical degree from George Washington University in 1905, he served a year each as intern and resident at Providence Hospital.

During World War I he enlisted for service with the Medical Corps of the U. S. Army and was commissioned Lt. Colonel. He served from 1918 to 1920. During those years he received postgraduate training in orthopedics at the Army Medical School in Washington and at the Massachusetts General Hospital in Boston. He served as Chief Surgeon at a large military hospital in Bordeaux, France.

Returning to Washington, he specialized in orthopedic surgery, with offices in the Medical Center. He was on the hospital staffs of most of the Washington hospitals. He was Clinical Professor of Orthopedic Surgery at Georgetown University School of Medicine from 1920 to 1945 and was named Professor Emeritus when he retired from the faculty.

Dr. Talbot was elected to Active membership in the Medical Society of the District of Columbia in 1907 and became a Life member in 1948. He was a Fellow of the American College of Surgeons and a member of the American Medical Association, the American Academy of Orthopedic Surgeons, and the Clinico-Pathological Society. He also belonged to the Chevy Chase Club and the Washington Rotary Club.

His wife, Mrs. Roberta Lackland Talbot, preceded him in death. He leaves his daughter, Mrs. Robert Sharp, a son, John Allan Talbot III, both of Middleburg, Va., and a brother, Barnett T. Talbot, of New York City.

Charles Jacob Bowne, M.D.

(1891-1967)

DR. CHARLES J. BOWNE, a Life member of the Medical Society of the District of Columbia, died at Doctors Hospital, April 27, 1967. His offices and home were at 2001 Rhode Island Avenue, N.E.

Dr. Bowne was born in Columbus, Ohio, December 29, 1891. He attended public schools in Philadelphia and received his medical degree from Temple University in 1913. He interned at Temple University Hospital the following year.

During World War I he was on active duty with the Medical Reserve Corps of the U. S. Army from 1917 to 1919, serving the second year with the A.E.F. in France.

After the War Dr. Bowne came to Washington to take a residency at Casualty Hospital. Later he trained in anesthesia at Garfield Memorial Hospital, following which he devoted much of his practice to anesthesia. He was on the hospital staff of Sibley Memorial Hospital.

During World War II he served as an examining physician for the Selective Service.

Dr. Bowne was elected to Active membership in the Medical Society of the District of Columbia in 1920 and became a Life member in 1960. He was a member of the American Medical Association and the American Society of Anesthesiology.

He leaves his wife, Mrs. Katherine Albaugh

Bowne; 2 sons, Lt. Cmdr. Charles J. Bowne, Jr., of Libertyville, Ill., and Thomas H. Bowne, of Washington. He also leaves a daughter, Mrs. Alan Dame, of Los Altos, Calif.

Philip Burka, B.S., M.D., F.A.C.S.

(1915-1967)

DR. PHILIP BURKA, Washington surgeon since 1946, died, April 14, 1967 while vacationing with his wife in the Virgin Islands.

Dr. Burka was a native Washingtonian, born April 14, 1915 to Max and Hannah Deckelbaum Burka. He was a graduate of Central High School in Washington and received both degrees, Bachelor of Science and Doctor of Medicine, from Georgetown University, the latter in 1940.

He served his internship at Gallinger Municipal (now D. C. General) Hospital. He was a fellow in pathology at Georgetown for a year, following which he turned his interest to surgery. He was a surgical resident at Georgetown University Hospital from 1942 to 1944, then spent a year at the Lahey Clinic as a fellow in surgery and a year as surgical resident at Boston City Hospital.

Dr. Burka returned to Washington to enter private practice in 1946. The same year he joined the faculty of Georgetown University, where he was Clinical Assistant Professor of Surgery. He was on the active staffs of Georgetown and D. C. General Hospitals, Washington Hospital Center, and Suburban Hospital, and on the courtesy staffs of other Washington hospitals.

Dr. Burka was elected to Active membership in the Medical Society of the District of Columbia in 1947. He was a diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and a member of the American Medical Association, the Jacobi Medical Society, the Washington Academy of Surgery, and the Georgetown Clinical Society.

Surviving him are his wife, Mrs. Sarabelle Kaufman Burka, a son, Paul, and a daughter, Elaine, all of the home address, 2815 Ellicott Street, N.W. He also leaves a brother, Fred Burka, of Washington.

Scintiphotography—Sauerbrunn et al

(Continued from page 330)

6. ANGER, H. O., AND OTHERS: Scintillation camera in diagnosis and research. *Nucleonics*, 1965, **23**, 57.
7. POWELL, M. R., AND ANGER, H. O.: Blood flow visualization with the Anger camera. *J. Nucl. Med.*, 1966, **7**, 729.
8. ANGER, H. O.: Survey of radioisotope cameras. *Trans. Instrum. Soc. Amer.*, 1966, **5**, 311.
9. SAUERBRUNN, B. J., KAWIN, B., AND SENECA, J.: Gamma scintillation camera—cinematographic studies, to be presented at the Annual Meeting of the Society of Nuclear Medicine (see ref. 2).
10. BECK, R. N.: Radioisotope scanning systems. *Trans. Instrum. Soc. Amer.*, 1966, **5**, 335.

Stereotaxic Cordotomy—Fox

(Continued from page 344)

References

1. WHITE, J. C., AND SWEET, W. H.: *Pain: Its Mechanisms and Neurosurgical Control*. Springfield, Ill.: Thomas, 1955.
2. FREEMAN, W., AND WATTS, J. W.: *Psychosurgery in the Treatment of Mental Disorders and Intractable Pain*, 2nd ed. Springfield, Ill.: Thomas, 1950.
3. FOLTZ, E. L., AND WHITE, L. E., JR.: *J. Neurosurg.*, 1962, **19**, 89.
4. SPILLER, W. G., AND MARTIN, E.: *J.A.M.A.*, 1912, **58**, 1489.
5. GRANT, F. C., AND WOOD, F. A.: *Clin. Neurosurg.*, 1958, **5**, 38.
6. OGLE, W. S., FRENCH, L. A., AND PEYTON, W. T.: *J. Neurosurg.*, 1956, **13**, 81.
7. KURU, M.: *Physiol. Rev.*, 1965, **45**, 425.
8. BELMUSTO, L., BROWN, E., AND OWENS, G.: *J. Neurosurg.*, 1963, **20**, 225.
9. JACKSON, E. E.: *Boston Med. Quart.*, 1959, **10**, 80.
10. NATHAN, P. W.: *J. Neurol. Neurosurg. Psychiat.*, 1963, **26**, 353.
11. BELMUSTO, L., WOLDRING, S., AND OWENS, G.: *J. Neurosurg.*, 1965, **22**, 277.
12. NATHAN, P. W.: *J. Neurol. Neurosurg. Psychiat.*, 1963, **26**, 487.
13. MULLAN, S.: *Postgrad. Med.*, 1965, **37**, 636.
14. MULLAN, S., AND OTHERS: *J. Neurosurg.*, 1963, **20**, 931.
15. MULLAN, S., HEKMATPANAH, J., DOBBIN, G., AND BECKMAN, F.: *Ibid.*, 1965, **22**, 548.
16. MULLAN, S.: *Surg. Clin. N. Amer.*, 1966, **46**, 3.
17. ROSOMOFF, H. L., CARROLL, F., BROWN, J., AND SHEPTAK, P.: *J. Neurosurg.*, 1965, **23**, 639.
18. ROSOMOFF, H. L., SHEPTAK, P., AND CARROLL, F.: *J.A.M.A.*, 1966, **196**, 482.
19. LIN, P. M., GILDENBERG, P. L., AND POLAKOFF, P. P.: *J. Neurosurg.*, 1966, **25**, 553.
20. LIN, P. M., AND POLAKOFF, P. P.: *J. Albert Einstein Med. Center*, 1965, **13**, 298.

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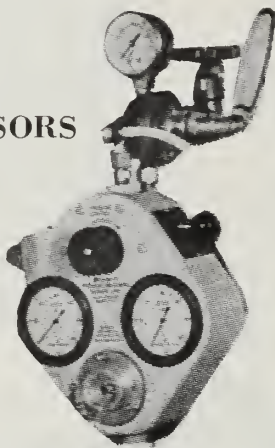
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BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received.

Laboratory Tests in Common Use, 4th ed. SOLOMON GARB, M.D., F.A.C.P. Price (paper), \$2.85. Pp. 192. New York: Springer, 1967.

Vascular Complications of Diabetes Mellitus, with Special Emphasis on Microangiopathy of the Eye. Edited by SAMUEL J. KIMURA, M.D., AND WAYNE M. CAYGILL, M.D. Price, \$19.75. Pp. 277, with 124 illustrations. St. Louis: Mosby, 1967.

Initiation of Labor. Proceedings of Interdisciplinary Conference on the Initiation of Labor, December 15-18, 1963, Princeton, N. J. Sponsored by the National Institute of Child Health and Human Development, Public Health Service, National Institutes of Health, U. S. Department of Health, Education, and Welfare. JEAN M. MARSHALL, Ph.D., Scientific Editor, AND WANDA M. BURNETT, Technical Editor. Price (paper), \$1.00. Pp. 241, illustrated. Washington, D. C. 20402: Superintendent of Documents, U. S. Government Printing Office, 1966 (PHS Publ. No. 1390).

Neonatal Respiratory Adaptation. Proceedings of Interdisciplinary Conference on Neonatal Respiratory Adaptation, December 6-9, 1963, Princeton, N. J. Sponsored by the National Institute of Child Health and Human Development, Public Health Service, National Institutes of Health, U. S. Department of Health, Education, and Welfare. THOMAS K. OLIVER, JR., M.D., Scientific Editor, AND WANDA M. BURNETT, Technical Editor. Price (paper), \$1.25. Pp. 251, illustrated. Washington, D. C. 20402: Superintendent of Documents, U. S. Government Printing Office, 1966 (PHS Publ. No. 1432).

The Human Heart. The Layman's Guide to Heart Disease. BRENDAN PHIBBS, M.D., F.A.C.P., with contributions from Lane Craddock, M.D., George Griffith, M.D., Robert T. Patrick, M.D., and Colin H. M. Walker, M.D. Price (paper), \$4.95. Pp. 253, with 72 illustrations. St. Louis: Mosby, 1967.

Ciba Foundation Symposium: Ethics in Medical Progress with Special Reference to Transplantation. Edited by G. E. W. WOLSTENHOLME, O.B.E., M.A., F.R.C.P., F.I.Biol., AND MAEVE O'CONNOR, B.A. Price, \$11.75. Pp. 257. Boston: Little, 1966.

Ciba Foundation Symposium: Principles of Biomolecular Organization. Edited by G. E. W. WOLSTENHOLME, O.B.E., M.A., F.R.C.P., F.I.Biol., AND MAEVE O'CONNOR, B.A. Price, \$15.00. Pp. 491, with 141 illustrations. Boston: Little, 1966.

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Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

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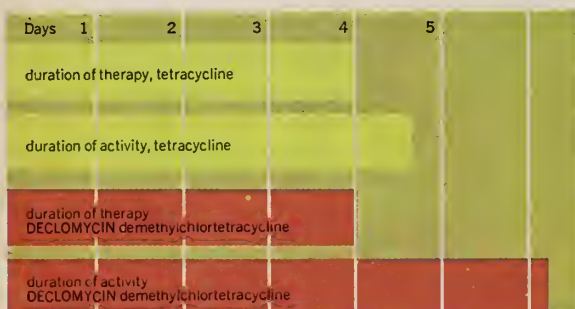


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Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essen-

tial. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets*: film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.



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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneuritic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdose may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.



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INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

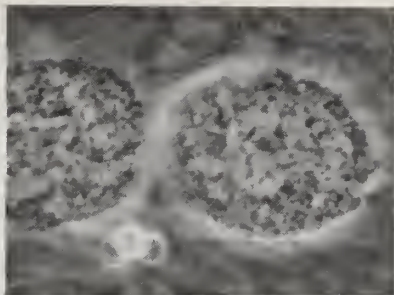


Visual evidence of how corticosteroids influence the inflammatory reaction

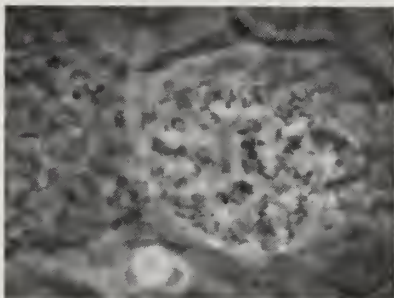
Working with phase-contrast cine-micrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



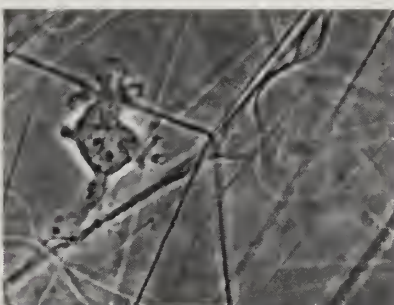
Phase-contrast microscopy showing mast cell before injury.



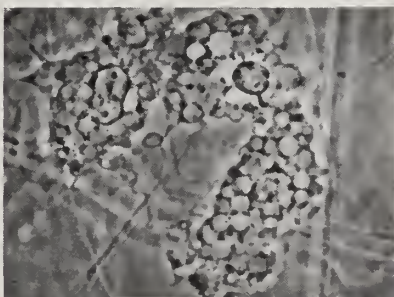
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

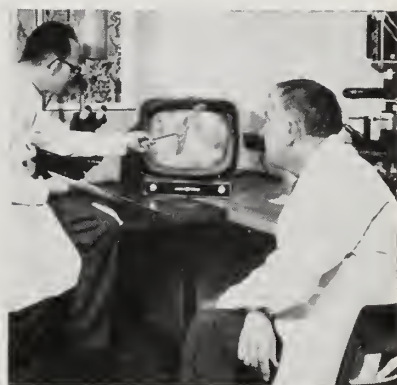
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid—Synalar (fluocinolone acetonide)—the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

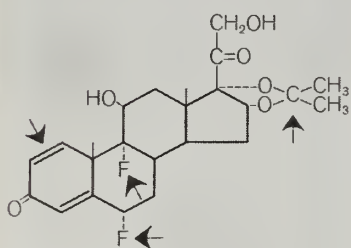
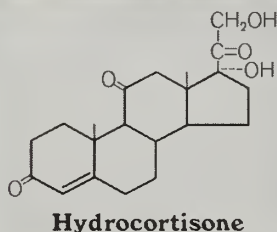


In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

*A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

How advances in chemical design have achieved greater steroid potency

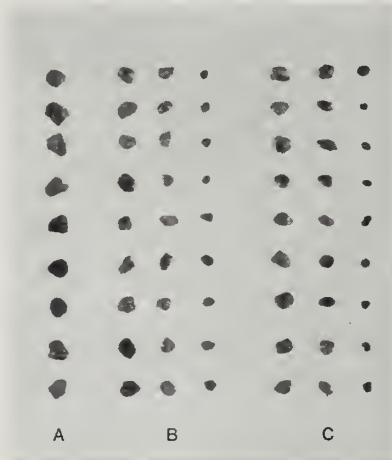
The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



- ☐ a double bond between carbons 1 and 2
- ☐ fluorine substitutions at both the 6- α , and the 9- α positions
- ☐ the addition of the acetonide at the 16- α , 17- α positions, thus providing one of the most potent topical corticosteroids available.

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY¹⁻⁴ is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B— injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C— injected with fluocinolone acetonide—but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY¹⁻⁴ also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. **PRECAUTIONS:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for pro-

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

longed periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. **SIDE EFFECTS:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. *Ann NY Acad Sci* 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. *Proc Soc Exp Biol Med* 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: *Methods of hormone research*, New York, Academic Press, 1964, vol. III, pp. 234-280. 4. Gubersky, V. R.: To be published.

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BOOK REVIEWS

A Manual of Tropical Medicine, 4th ed. GEORGE W. HUNTER III, PH.D., COLONEL, U.S.A. (RET.), WILLIAM W. FRYE, PH.D., M.D., SC.D. (HON.), AND J. CLYDE SWARTZWELDER, PH.D. Price, \$18.50. Pp. 931, with 323 illustrations, 8 in color. Philadelphia: Saunders, 1966.

This book will be particularly useful to those who find themselves in a position of responsibility for problems in tropical medicine and who may not have adequate library facilities and consultation readily available.

This manual born of necessity to meet the needs of the Armed Forces in World War II continues in its fourth edition to perform this function admirably. Its scope has been broadened on a worldwide basis, and it should be of interest to all who may be concerned with the various aspects of tropical medicine in either civilian or military populations.

It is amply evident in the chapters without a byline that the authors have done their share of revision. Chapters by collaborators are indicated by byline. It adds to understanding and reading pleasure to know this.

Traditionally, textbooks are said to be out of date by the time they are printed, but little reason is found to complain on this score. The book is quite modern in viewpoint. For example, the chapter on malaria discusses the recent indications of the zoonotic potential of simian malarias.

The illustrations add much, notably the beautiful color plates.

WILLIAM G. WORKMAN, M.D.

Initiation of Labor. Proceedings of Interdisciplinary Conference on the Initiation of Labor, December 15-18, 1963, Princeton, N. J. Sponsored by the National Institute of Child Health and Human Development, Public Health Service, National Institutes of Health, U. S. Department of Health, Education, and Welfare. JEAN M. MARSHALL, PH.D., Scientific Editor, AND WANDA M. BURNETT, Technical Editor. Price (paper), \$1.00. Pp. 241, illustrated. Washington, D. C. 20402: Superintendent of Documents, U. S. Government Printing Office, 1966 (PHS Publ. No. 1390).

This small volume is a distillate of the frontiers reached by a group of distinguished investigators from a variety of disciplines in their attempt to find the "trigger" which initiates labor. The approach is from the standpoint of anatomy, biochemistry, biology, endocrinology, chemistry, obstetrics, gynecology, genetics, physiology, and pharmacology. Unfortunately, all the pieces in the jigsaw puzzle, when assembled, do not form a complete picture. Ernest W. Page sums up the results by stating: "I must conclude that in comparison to other branches of science we have added relatively little to our knowledge on the cause of labor."

The above statement would give the impression of dullness and frustration. On the contrary, I found this book very stimulating. From the viewpoint of a clinician I find that it gives insight into the possible mechanisms of every-day observed clinical phenomena. The section on progesterone by Csapo is particularly impressive although he admits that some hypotheses can only be supported by indirect evidence. For instance, that progesterone is transported from the placenta to the myometrium via the membranes could explain why high stripping may in some cases initiate labor—by removing the progesterone block. In support of this is the work of Dr. Fritz Fuchs who states that saline instilled outside the membranes by catheter, that is, between the uterine wall and membranes, will produce abortion "exactly in the same way as if you put the saline in the amniotic sac."

The last 24 pages, representing 10 per cent of the entire proceedings of a 4-day conference, are entitled "Clinical Circumstances at the Time of Labor." Paradoxically, this section will have little appeal to the pragmatic clinician. First, it presents practically nothing new. Second, the reader will be disappointed that such eminent researchers and clinicians as Caldeyro-Barcia and Friedman disagree on the effect of sedation on the course of labor. It would seem that such an important question should have been answered a long time ago by an objective study. A third concept which will cause momentary consternation among those who have more than occasional use for intravenous pitocin is the statement attributed to Allen Barnes that "the only

(Continued on page 38)

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Book Reviews

(Continued from page 36)

safe method of oxytocin administration requires an infusion machine and an intra-amniotic catheter with electronic 'gadgets'." Mercifully, Dr. Page, on the last page of the book, suggests that in his opinion one can substitute "a competent observer with an educated hand, a stopwatch, and a controlled drip infusion."

This book is recommended as pleasant, important, and effortless reading to all those interested in obstetrics. It is in a sense a synthesis of what is known and, even more important, what is not known, about the initiation of labor in humans.

JEAN E. PAQUIN, M.D.

Conflict in Society. A Ciba Foundation Symposium. Edited by ANTHONY DE REUCK, M.Sc., D.I.C., A.R.C.S., AND JULIE KNIGHT, B.A. Price, \$13.00. Pp. 467. Boston: Little, 1966.

Be it Tibetan versus Chinese, or Walloon versus Fleming, or Stalin versus Trotsky, or Johnson versus Kennedy, or ultimately, man versus himself, "conflict" has been a manifestation of the species since the Garden of Eden. Though the problems of struggle and change have preoccupied thinking men for thousands of years, it is only in the last decade that the subject has been graced with legitimacy as a distinct and recognized area of study. Its scholars are headquartered at such places as Brandeis University's Lemberg Center for the Study of Violence, the University of Michigan Center for Research on Conflict Resolution, and Peace Research Institute (note the semantic problem!) in Oslo, and they commune via their own national and international societies and journals. This is another example of a mode of academic proliferation which has become quite popular in the hydrogen age: consolidation and reification of the complex, problem-oriented interfaces of essentially immiscible disciplines. In fact, it has been through the enterprise of just such midwives as the CIBA Foundation that labors of this sort have been eased and encouraged.

The present volume signals not the conception or delivery but the baptism of a new area of discourse, and it incorporates 14 of the papers offered at a 1965 invitational symposium as well as some of the discussion by the 23 eminent participants. Ten disciplines are represented (including philosophy but not theology), and some contributions (Glass, Barbu, Deutsch) may be easier for the average medical reader to digest than others (Chance, De Vos, Rapoport). For the intellectually curious, however, it offers more than 13 dollars' worth of fascinating reading.

HERBERT WINSTON, M.D.

(Continued on page 43)

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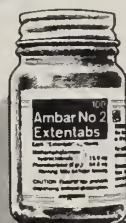
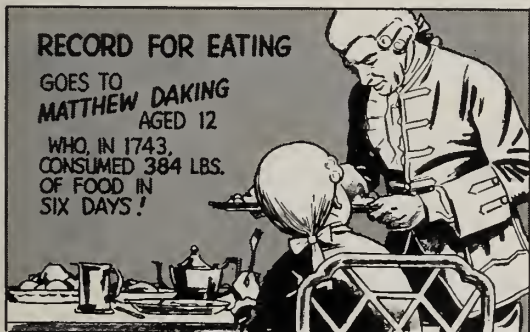


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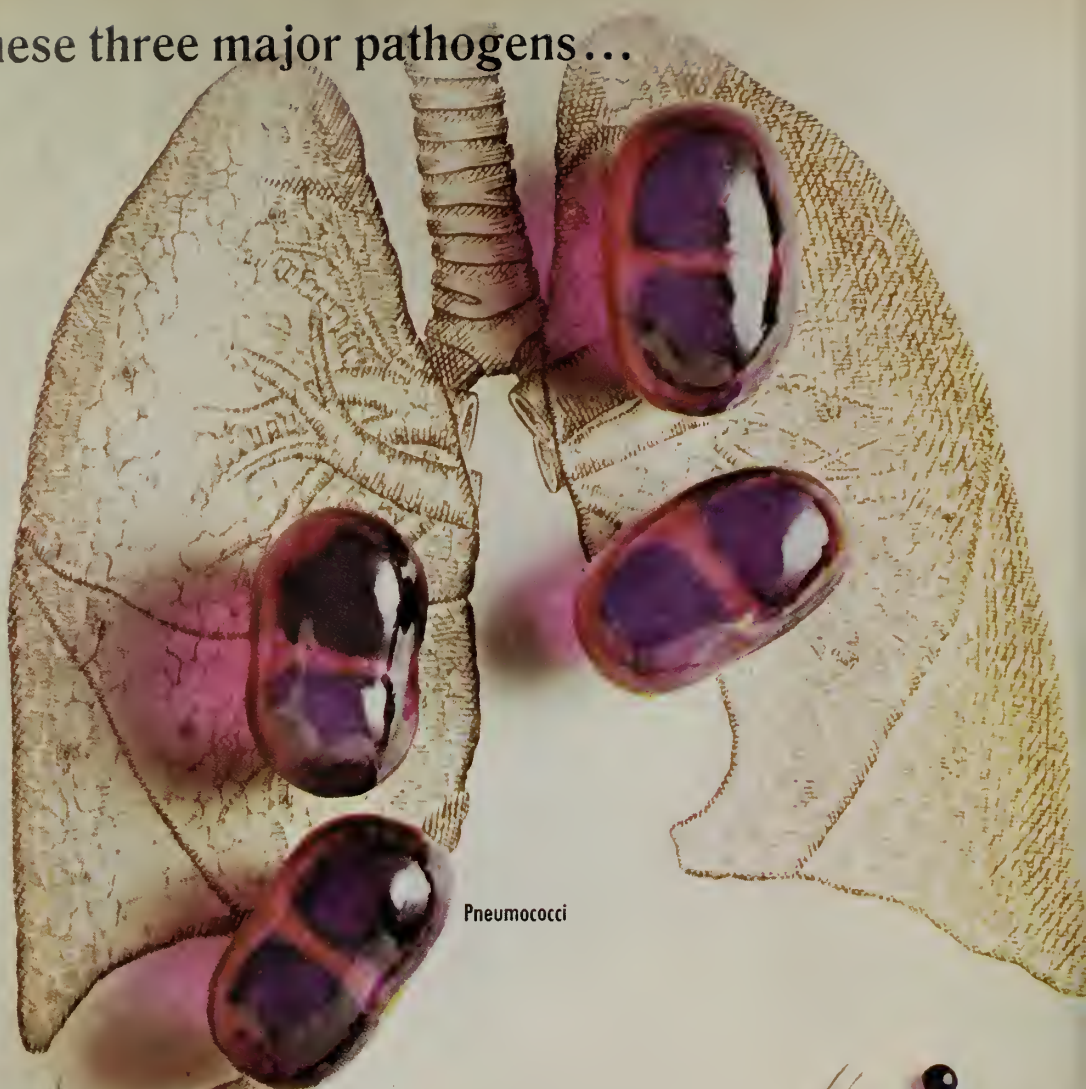
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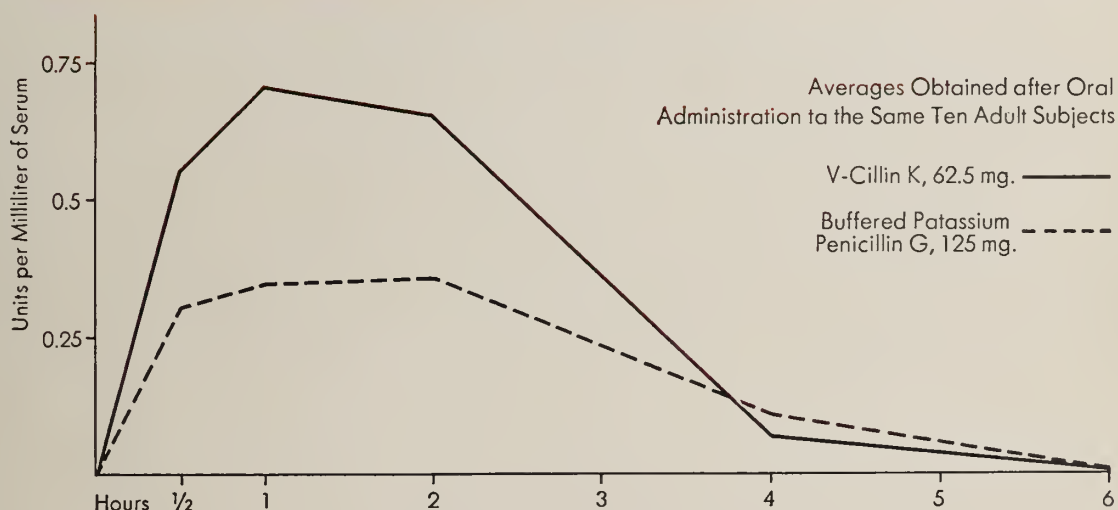
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Claxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
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Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

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Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

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Book Reviews

(Continued from page 38)

Diabetes for Diabetics. A Practical Guide.

GEORGE F. SCHMITT, M.D., F.A.C.P. Price, \$5.95. Pp. 237, illustrated. Miami, Fla.: Diabetes Press, 1965.

"Diabetes for Diabetics" offers a practical approach to the education of the diabetic and his family. Dr. Schmitt has done an excellent task of compiling this book in lecture-like chapters which are so clearly written and well illustrated that a child as well as the adult will benefit. Visual aids include more than 200 full-color illustrations. There are other diabetic manuals, but this book is a fresh and up-to-date approach to the education of the diabetic. It covers the essentials of diabetes that every diabetic and his family should want to know.

Included in the manual are the fundamentals in a systematic, graphic, and interesting arrangement, and a diet section which contains the most complete food exchange list. Other important subjects covered are insulin, oral antidiabetic drugs, childhood diabetes, marriage, and pregnancy. Fully explained is the subject of hypoglycemia, which is often poorly understood and often mistakenly diagnosed. In addition, the book touches on the everyday problems facing diabetics which include employment, insurance and taxes. It includes a directory of summer camps for diabetic children, a list of the State Affiliates of the American Diabetes Association, an extensive glossary, and a complete index of specific references.

An outstanding feature of this book is a self test which follows each chapter to help in the education of the diabetic.

This book is a must for every diabetic and his family as well as an excellent reference for every physician treating patients with this disease.

WILLIAM KURSTIN, M.D.

Neuro-ophthalmology. Volume III. Symposium of the University of Miami and the Bascom Palmer Eye Institute. Compiled and edited by J. LAWTON SMITH, M.D. Price, \$25.00. Pp. 349, with 200 illustrations. St. Louis: Mosby, 1967.

J. L. Smith has edited this text in the same lucid and forceful manner that distinguishes him as a popular guest speaker. The book has its origins in the Neuro-ophthalmology Symposium held in Miami in 1966. The selected discussions are of some general interest, with emphasis on pediatric neurology, neuropathologic findings, and surgical and radiological applications. The approach is clinical, and we have an excellent digest of recent changes in the field of neuro-ophthalmology. Some background and interest are necessary to fully appreciate this selection.

The author wisely makes no attempt to make this a complete neuro-ophthalmologic text, and as such its lasting value as a reference book is in doubt. This slender volume is worthwhile but it is priced in company with the major ophthalmic works of the decade, a disadvantage to the casual reader with a budget.

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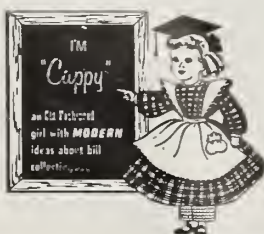
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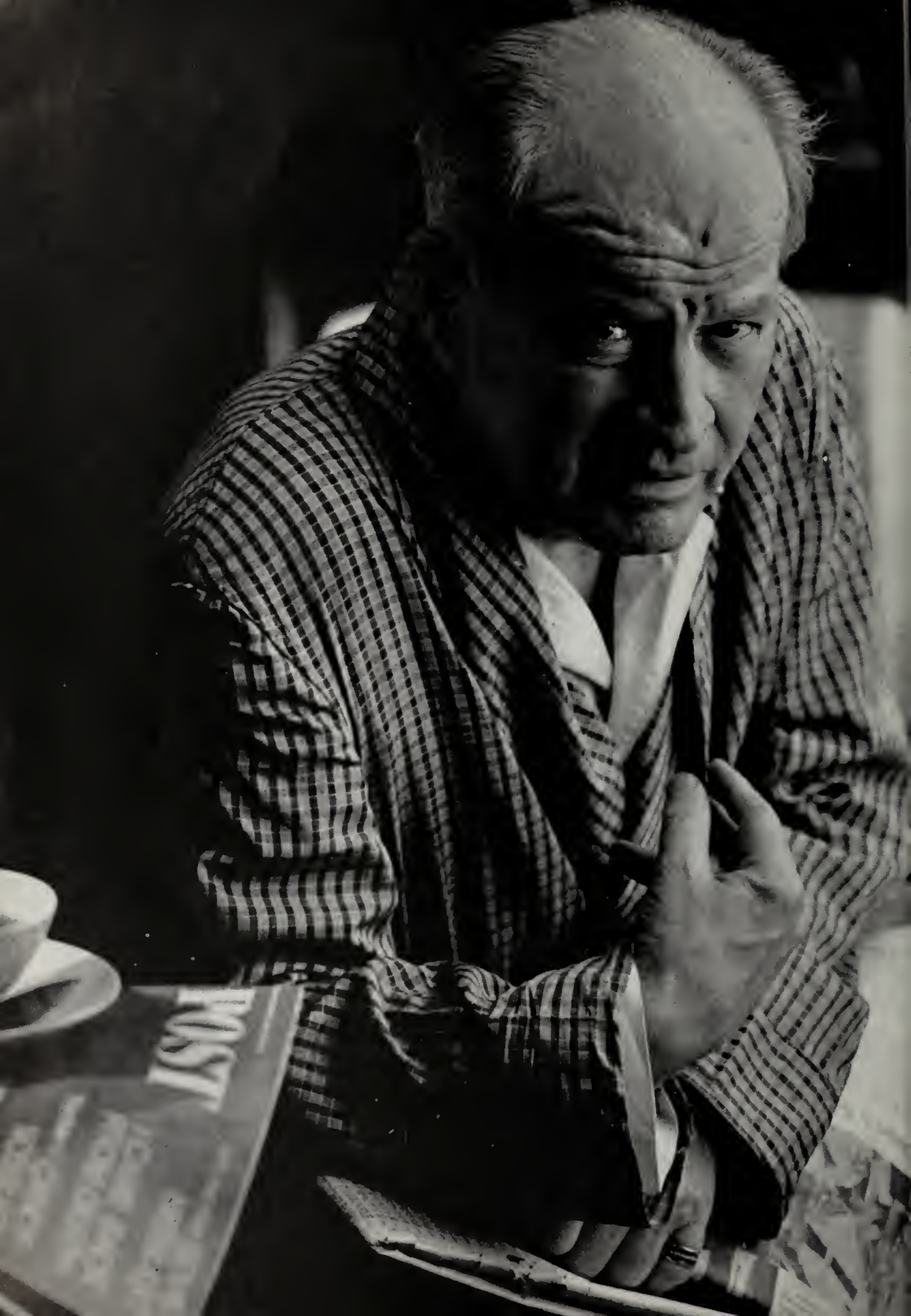
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Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose

should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

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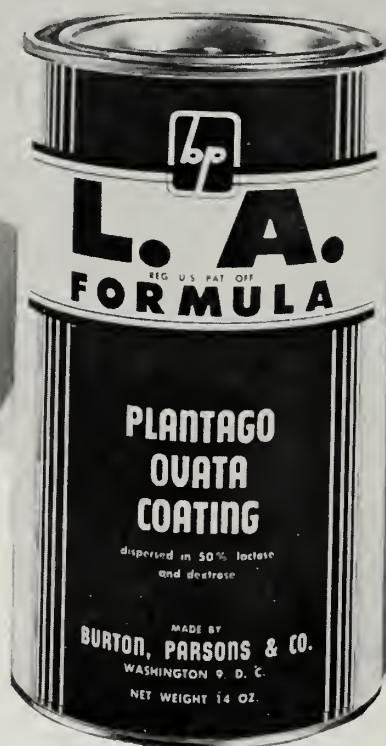
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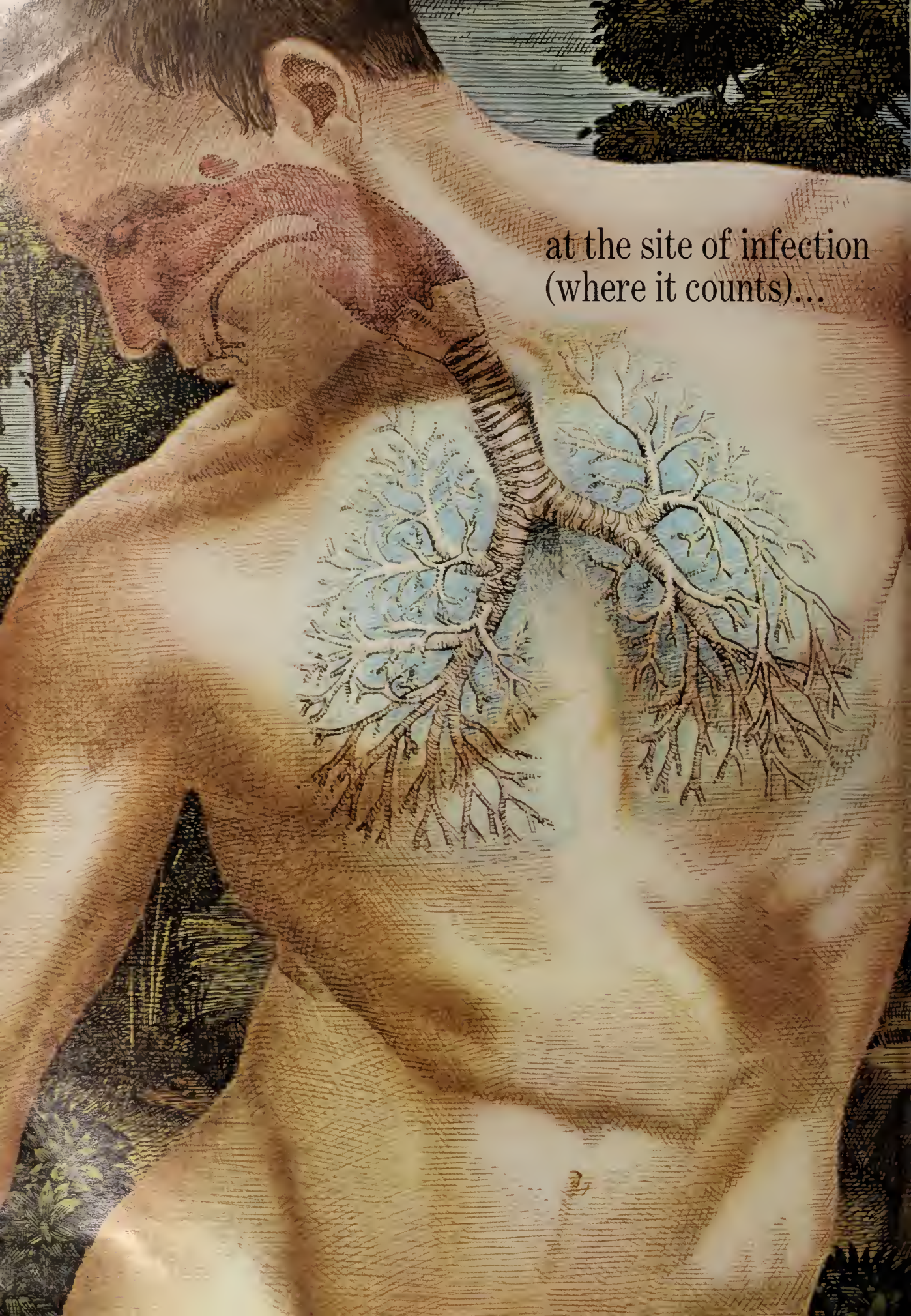


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In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of

staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Ilosone®
Erythromycin Estolate



(See next page for prescribing information.)

Ilosone® the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone. **Contraindications:** Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with pre-existing liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to

be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®

Ilosone Chewable Tablets

Ilosone Drops

Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: *Am. J. M. Sc.*, 247:69, 1964.
2. Griffith, R. S., and Black, H. R.: *Antibiotics & Chemother.*, 12:398, 1962.
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: *Am. J. M. Sc.*, 239:198, 1960.

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

MEMO FROM . . .

to :

DR. "A"*

Administrator, Income Protection Plan,
Medical Society of the District of Columbia

***"Thank you
for relieving me
of a financial burden"***

Dr. "A", Washington, D.C., was mighty thankful he had the Medical Society's Income Protection Plan when he was disabled recently by an accident.

Mutual of Omaha, underwriter of the plan, sent Dr. "A" a check for \$2,562.60, paying him benefits under his Medical Society coverage as well as the supplementary coverage he has had with Mutual of Omaha since 1932.

All told, Mutual of Omaha has paid Dr. "A" a total of \$8,003.38 in benefits since 1955. These checks, covering three separate disabilities, have helped him meet his financial obligations when he was unable to carry on his practice.

On each occasion Dr. "A" has been completely satis-

fied with the manner in which his applications for benefits have been handled and said so in a recent letter to Mutual of Omaha.

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Laurel, Maryland

Since purchasing his Medical Society Income Protection Plan in 1953, Dr. "B" has been disabled five times. He has received benefit checks totaling \$1,199.91. Says Dr. "B": "I can truly state that I am very satisfied with my policy with Mutual of Omaha and wish to express my sincere thanks."

Dr. "C"*

Washington, D. C.

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Dr. "D"*

Glenn Dale, Maryland

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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, hallucinations); changes in EEG patterns. Abrupt cessation after prolonged over-dosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlor-diazepoxide HCl.

Dosage—Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.



JUN 1969

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